

*STICK/MIG/TIG PLASMA MACHINES* 

**FILLER METALS** 

SAFETY PRODUCTS

**ABRASIVES** 

TOOLS

GAS EQUIPMENT















ROBERTS

Industrial Gases...

- Acetylene
- Argon
- Carbon Dioxide
- Helium
- Hydrogen
- Oxygen
- Nitrogen
- Propane
- Propylene
- Welding Gas Mixtures



*BULK / MicroBulk Gases...* 

- \* Argon
- \*Carbon Dioxide
- \*Helium
- \*Hydrogen
- \*Oxygen
- \* Nitrogen







## Serving the Mid-Atlantic, Since 1966.

Since our founding in 1966 as a local distributor of compressed industrial and specialty gases, cryogenic equipment, welding equipment and supplies, we have expanded our capabilities and services to meet the ever-changing needs of our customers. Today, Roberts Oxygen is recognized as the finest service independent distributor in the Mid-Atlantic region with 38 locations, serving 9 states.

## **ROBERTS OXYGEN COMPANY YOUR ONE SOURCE FOR...** • Welding equipment and supplies

- INDUSTRIAL & MEDICAL GASES
- SPECIALTY GASES & EQUIPMENT
- BULK GASES / MicroBulk
- LASER GASES
- BEVERAGE GASES
- CRYOGENIC EQUIPMENT
- TURN-KEY SALES & INSTALLATIONS
- TECHNICAL SALES & SERVICE
- VALUE ADDED SERVICES... EDI/Online Ordering 24/7 Emergency Delivery

*38 Convenient Locations in the Mid-Atlantic Friendly and Knowledgeable Customer Service* 





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## SR 250 SERIES / SINGLE STAGE MEDIUM DUTY

#### APPLICATION & USES SR250 SERIES

- Medium duty capacity
- Ideal for welding and cutting applications
- Compact single stage construction

Dimensions: 6<sup>3</sup>/<sub>8</sub>" W x 5<sup>1</sup>/<sub>8</sub>" H x 4<sup>1</sup>/<sub>4</sub>" D (16.5cm x 13cm x 11cm) Weight: 2lb. 15oz. (1.4kg)

DESIGN/CONSTRUCTION

- Forged brass body and housing cap
- 2" gauges
- Stem type seat mechanism
- 1<sup>3</sup>/<sub>4</sub>" diaphragm
- Delrin® cap bushing for smooth adjustments
- External self reseating relief valve not designed to protect downstream apparatus
- Sintered inlet filter

## SPECIFICATIONS PERFORMANCE

Maximum Inlet : 3000PSIG Delivery Range: See Chart

NOTE

Regulators will deliver at least the stated upper range at no flow and in some cases may exceed the stated upper range.

#### **Sample Ordering Information**

Model No.	Delivery Range	CGA Connection
SR 250	А	540
Delivery Range F A 2-15 PSIG C B 2-40 PSIG D Outlet Connectio	4-80 PSIG	
CSR: *Green Ga	uges-Oxygen **Re	ed Gauges-Fuel



Gas Service	Model No.	Delivery Range (PSIG)	Part No.
Air, Oxygen, Inert Gas	SR250A-540         SR250A-580       4         SR250C-346       5         SR250C-540       4         SR250C-580       4         SR250C-590       5         SR250D-346       5         SR250D-346       5         SR250D-540       *         *CSR250D-540       4         SR250D-540       4	2-15 2-15 2-40 4-80 4-80 4-80 5-125 5-125 5-125 5-125 5-125	0781-0003 0781-0004 0781-0016 0781-0022 0781-0027 0781-0028 0781-0029 0781-0010 0781-0043 0781-0033 0781-0044
Methane Hydrogen	SR252B-350 SR252C-350 SR252D-350	2-40 4-80 5-125	0781-0059 0781-0065 0781-0068
CO <sub>2</sub>	SR253B-320 4 SR253C-320 4 SR253D-320 4	2-40 4-80 5-125	0781-0075 0781-0077 0781-0079
Acetylene	SR260A-300 **CSR260A-300 SR260A-510 **CSR260A-510	2-15 2-15 2-15 2-15	0781-0085 0781-0244 0781-0087 0781-0232
L.P. Gas	SR261B-510 SR261C-510 SR261D-510	2-40 4-80 5-125	0781-0095 0781-0098 0781-0104





## SR 350 SERIES/ SINGLE STAGE HEAVY/MEDIUM DUTY

#### APPLICATION AND USES SR 350 SERIES

- Medium duty applications
- Applications ranging from severe to moderate conditions
- Single stage design.

Dimensions: 7 <sup>1</sup>/<sub>2</sub>"W x 6<sup>1</sup>/<sub>2</sub>"H x 4 <sup>1</sup>/<sub>2</sub>"D (19.23cm x 16.27cm x 11.53cm) Weight: 3lb. 8oz (1.74kg)

## DESIGN/CONSTRUCTION

- Forged brass body and housing cap
- $2\frac{1}{2}$ " gauges brass
- Stem type seat mechanism
- 2<sup>3</sup>/<sub>4</sub>" diaphragm
- Delrin® cap bushing for smooth adjustments
- External self reseating relief valve not designed to protect downstream apparatus
- Sintered inlet filter

#### SPECIFICATIONS PERFORMANCE

Maximum Inlet: 3000PSIG Delivery Range: See chart

#### MATERIALS

Body: Forged Brass Diaphragm: Fabric Reinforced Neoprene Housing Cap: Forged Brass Inlet Filter: Bronze

**NOTE**: Regulators will deliver at least the stated upper range and in some cases may exceed the stated upper range.



#### **Sample Ordering Information**

	Model No.	Del	ivery Range	CGA	Inlet Connection
	SR 350		D		540
Gas Service	Model Numb	oer	Delivery R (PSIG		Part #
Oxygen	SR 350 D-54 *CSR 350 D-5	-	5-125 5-125		0781-2341 0781-2274
Acetylene	**CSR 360 A-5 SR 360 A-30 **CSR 360 A-3	0 3	2-15 2-15 2-15		0781-2408 0781-2400 0781-2404
	nge Key D 5-125 ections: Cylinde 9/16"-1 2 9/16"-1	.8 (M)	)		
CSR *Greer	2 9/10 -1 3 9/16"-1 n Gauges– Oxyg	8 (M)		iges-Fi	ıel



## HEAVY DUTY 300 SERIES TORCH HANDLES For use with all Fuel Gases

Victor Torch Handles are available with VanGuard<sup>™</sup> safety features.

- Built-In Flashback Arrestors-no need for accessory flash arrestors
- Built-In Reverse Flow Check Valves
- Works with all fuel gases. There are pressure restrictions for different gases.



VanGuard<sup>™</sup> Torch Handles are offered in H315C Extra Heavy Duty and Heavy-Duty (315FC) and Medium-Duty (100FC) models, and available in Victor's most popular outfit models. VanGuard <sup>™</sup> Torch Handles also feature Victor Traditional threaded assemblies for quick economical repair if service is necessary.

Part Number	Model Number	Description	Hose Connection	Gas	Weight	Length
0382-0316	315C	VanGuard <sup>™</sup> Heavy Duty	9/16"-18	All	18oz	9"
0382-0316	H315C	Extra Heavy Duty Torch Handle	9/16"-18	All	20oz	9"

All Victor® torch handles with "B size fittings are equipped with built-in reverse flow check valves along with built-in flashback arrestors.

NOTE: the shape of the torch handle is a registered trademark of Victor® Equipment company.

## HEAVY DUTY CUTTING ATTACHMENTS For use with 300 Series Torch Handles

- Die-Forged Brass Head
- Spiral mixer blends Oxygen and Fuel
- Smooth cutting Valve (Push Type)
- Stainless Steel Tubes
- Brass Coupling Nut & Double "O" Ring tapered seal gives quick gas-tight seal without a tightening wrench.



Part Number	Model Number	Cutting Range	Tip Series	Head Angle	Length	Weight
0381-0816	CA2460	8" / 200mm	1	90°	10 1/2"	32oz
0381-0817	CA2461	8" / 200mm	1	75°	10 1/2"	32oz
0381-0818	CA2462	8" / 200mm	1	180°	10 1/2"	32oz
0381-0823	CA2470	7"/ 175mm	3	90°	10 1/2"	32oz



## **MEDIUM DUTY 100 SERIES TORCH HANDLES** For use with all Fuel Gases

Victor® torch handles cover the full range of welding, cutting and heating needs. Performance matched cutting attachments are available for each torch handle series . VanGuard<sup>™</sup> handles include built-in flashback arrestors and reverse flow check valves.



Part Number	Model Number	Description	Hose Connection	Gas	Weight	Length
0382-0032	100FC	VanGuard <sup>™</sup> Medium Duty	9/16"-18	All	14oz	8 1/2"

All Victor® torch handles with "B" size fittings are equipped with built-in reverse flow check valves along with built-in flashback arrestors.

NOTE: the shape of the torch handle is a registered trademark of Victor® Equipment Company

## **MEDIUM DUTY CUTTING ATTACHMENTS** For use with 100FC Series Torch Handles

- Die-Forged brass head •
- Spiral mixer blends oxygen and fuel •
- Smooth cutting valve (pull type) •
- Stainless steel tubes
- Brass coupling nut & Double "O" Ring Seal • gives quick gas-tight seal tightening without wrench

For use with 100FC Series torch handles. All Fuel Gases											
Part Number	Model Number	Cutting Range	Tip Series	Head Angle	Length	Weight					
0381-0418	CA1350	6"/ 150mm	3	90°	8"	13oz					
0381-0420	CA1351	6"/ 150mm	3	75°	8"	13oz					
0381-0421	CA1352	6"/ 150mm	3	180°	8"	13oz					

NOTE: The shape of the cutting attachment is a registered trademark of Victor® Equipment Company





## ST 900FC VanGuard<sup>TM</sup> SERIES STRAIGHT CUTTING TORCHES

- For use with any fuel gas, 5PSIG and above.
- Use with Series 1 Cutting Tips
- Cutting capacity 1/8"/ 3.25mm to 5"/ 127mm.
- Hose connections are 9/16-18 unless noted
- Includes built-in patented flashback arrestors and reverse flow check valves for added safety.



Part Number	Model Number	Lever Position	Tip Series	Head Angle	Length
0381-1620	SST900FC	Top Rear	1	90°	17"/43cm
0381-1622	SST901FC	Top Rear	1	75°	17"/43cm
0381-1621	ST900FC	Top Rear	1	90°	21"/53cm
0381-1623	ST901FC	Top Rear	1	75°	21"/53cm
0381-1628	ST912FC	Top Rear	1	180°	27"/68cm
0381-1624	ST930FC	Top Rear	1	90°	36"/91cm
0381-1625	ST931FC	Top Rear	1	75°	36"/91cm
0381-1626	ST932FC	Top Rear	1	180°	36"/91cm
0381-1629	ST950FC	Top Rear	1	90°	48"/122cm
0381-1630	ST951FC	Top Rear	1	75°	48"/122cm

## ST 2600FC VanGuard<sup>TM</sup> SERIES STRAIGHT CUTTING TORCHES

- For use with any fuel gas
- Uses Series 1 cutting tips
- Cutting capacity 1/8" /3.25mm to 8"/ 203mm



Part Number	Model Number	Lever Position	<b>Tip Series</b>	Head Angle	Length
0381-1481	ST2600FCL	Top Rear	1	90°	21"/53cm

Note: Other torch models and Lock-down levers available. Ask for details





## SuperRange II Cutting Outfit



#### Features

- Heavy duty CSR350 series regulators with gauge guards
- Medium duty 100FC torch handle
- CA1350 cutting attachment
- W-1 welding nozzle, Size:2
- Cutting Tip: 0-3-101
- T grade multi-fuel hose, soft sided shade 5 goggles, multiwrench and tip cleaner
- Color coded gauges
- Built in reverse flow check valves and flashback arrestors.
- Cuts up to 1/2" /12mm (6"/150mm with optional tips)
- Welds up to 1/4"/6mm (1 1/4"/31mm with optional nozzles)
- Stainless Panel Toolbox

#### **CUTTING TIP DATA**

Standard Cutting tips												
Material thickness up to: (in)	1/8	1/4	1/2	3/4	11/2	2 <sup>1</sup> /2	3	5	10	12	15	18
Material thickness up to: (mm)	3	6	13	19	38	64	76	127	254	305	381	457
Tip Size	000	00	0	1	2	3	4	5	7	8	10	12
Drill Size	70	66	59	56	53	50	45	39	28	20	13	2
Oxygen Pressure (PSI)	20-25	20-25	20-25	30-35	35-45	40-50	40-50	45-55	45-55	45-55	45-55	45-55
Oxygen Pressure (BAR)	1.4-1.7	1.4-1.7	1.7-2.4	2.1-2.4	2.4-3.1	2.8-3.4	2.8-3.4	3.1-3.8	3.1-3.8	3.1-3.8	3.1-3.8	3.1-3.8
Fuel Pressure (PSI)	3-5	3-5	3-5	3-5	3-7	4-10	5-10	5-13	10-15	10-15	10-16	10-16
Fuel Pressure (BAR)	.2035	.2035	.2035	.2035	.2048	.2869	.3469	.3490	.68-1.02	.68-1.02	.68-1.09	.68-1.09

	WELDING NOZZLE FLOW DATA												
Metal TI IN	hickness MM	Tip Size	Drill Size	Oxygen (PSIG)	Acetylene (PSIG)	Acetylene (SCFH)							
1/32"	.8	000	75 (.022)	3/5	3/5	1/2							
3/64"	1.2	00	70 (.028)	3/5	3/5	1-1/2 / 3							
5/64"	1.9	0	65 (.035)	3/5	3/5	2/4							
3/32"	2.4	1	60 (.040)	3/5	3/5	3/6							
1/8"	3.2	2	56 (.046)	3/5	3/5	5/10							
3/16"	4.8	3	53 (.060)	4/7	3/6	8 / 18							
1/4"	6.4	4	49 (.073)	5/10	4/7	10 / 25							
1/2"	12.7	5	43 (.089)	6/12	5/8	15 / 35							
3/4"	19.0	6	36 (.106)	7/14	6/9	25 / 45							
1 1/4"	32.0	7	30 (.128)	8 / 16	8 / 10	30 / 60							
2"	51.0	8	29 (.136)	10 / 19	9 / 12	35 / 75							
3"	76.2	10	27 (.144)	12 / 24	12 / 15	50 / 100							

Warning: at no time should the withdrawal rate of an individual acetylene cylinder exceed 1/7 of the cylinder contents per hour. If additional flow capacity is required use an acetylene manifold system of sufficient size to supply the necessary volume.

Note: Oxygen consumption (SCFH) is 1.1 times the acetylene under neutral flame conditions.





## WELDING AND CUTTING OUTFITS

### **Portable Torch**

- CSR 150 Series Regulators
- 100FC Torch Handle with built-in check valves
- CA1350 Cutting Attachment
- W-1 Welding Nozzle, Size 1
- Includes 10' (3m) x 3/16" (5mm) T-Grade Hose, goggles and lighter.
- Cuts up to 1/2" / 12mm
   (4" / 100mm with optional tips)\*
- Welds up to 1/4" / 6mm (1 1/4" / 31mm with optional nozzles)\*
- \* Requires sufficient acetylene and oxygen supply

### TurboTorch Extreme™ Air/Acetylene Kit

- For heavy duty industrial, commercial and home use
- For soft soldering and brazing of copper, brass, bronze and aluminum.
- Acetylene AR-style regulator featuring all brass construction and easy to read contents gauge.
- A-style tips available in 6 sizes with quick disconnect from acetylene handle.
- Standard 3/8"-24 thread LH outlet fitting
- 12 ft. acetylene hose with 3/8"-24 thread LH nuts
- 9/16"-18 thread LH hose outlet.
- A-5 tip included. Other optional tips are available. Soft solders 3/4"- 1 1/2" or silver solders 1/4" - 3/4" with included tip.



## FLOW MEASUREMENT EQUIPMENT

FlameBuster<sup>TM</sup> Flashback Arrestor

- Use for GMAW and GTAW welding applications
- AF150-580 regulator for argon gas
- 10ft hose



ED/AVLIST

Torch Model           0656-0001         FB-1         FlameBuster Torch-Pair Pak (Oxygen & Fuel)			
Regulator Model			
0656-0004	FBR-01	FlameBuster Regulator-Pair Pak (Oxygen & Fuel)	







## **CUTTING TIPS**

General Purpose Hand and Machine Torch Cutting One Piece Acetylene

### Series 1, Type 101

Size Part Number	
000	0330-0003
00	0330-0004
0	0330-0012
1	0330-0005
2	0330-0006
3	0330-0002
4	0330-0007
5	0330-0008
6	0330-0009
7	0330-0013
8	0330-0014



## Series 3, Type 101

Size	Part Number	Sampl	e Tip (	Ordering	Inform	ation
000	0331-0002		Size	Series	Туре	
00	0331-0009		000	3	101	
0	0331-0013			-		
1	0331-0014			1		
2	0331-0015					
3	0331-0016					
4	0331-0017			151	Ţ <i>θ</i>	
5	0331-0018			1		
				1000	1	

Deseaming, scarfing, gouging, weld preparation, removing defective welds, washing rivets.

## Series 1, Type 118

Size	Part Number
0	0330-0109
2	0330-0113
4	0330-0114

#### Sample Tip Ordering Information

Size	Series	Туре
0	1	118







## **CUTTING TIPS**

Liquid Air Fuel Gas Propylene

General Purpose hand and machine torch cutting

### Series 1, Type GPP

Size	Part Number	
00	0333-0261	
0	0333-0262	
1	0333-0263	
2	0333-0264	
3	0333-0265	
4	0333-0266	
5	0333-0267	
6	0333-0268	

Sample Tip Ordering Information

Size	Series	Туре
0	1	GPP



Roberts Oxygen stocks tips for Harris, Smith and some other competitive brands. Please call a Roberts Oxygen location for pricing and availability.

Propane and Natural Gas (2 piece tip)

General Purpose hand and machine torch cutting

## Series 1, Type GPN

Size	Part Number
000	0333-0300
00	0333-0301
0	0333-0302
1	0333-0303
2	0333-0304
3	0333-0305
4	0333-0306
5	0333-0307
6	0333-0308
7	0333-0309
8	0333-0310

### Sample Tip Ordering Information

Size	Series	Туре
2	1	GPN







## **CUTTING TIPS**

General purpose hand and machine torch cutting.

•

Propane and Natural Gas (two piece tip)

# Series 3, Type GPN \_\_\_\_\_ Sample Tip Ordering Information

Size	Part Number	Sal	inple
Size	Fait Nulliber		Size
0	0333-0399		SIZ
			00
1	0333-0400		00
2	0333-0401		
3	0333-0402		

	······································					
	Size	Series	GPN			
	00	3	GPN			



## HEAVY DUTY HEATING NOZZLES For use with 300 Series torch handle

Size	Part Number	
4	0323-0250	
6	0323-0251	
8	0323-0252	
10	0323-0260	

## For use with Acetylene or Hydrogen

Multi-flame heating head for heat treating, straightening, and priming.

## Model MFA

Please see packaging for gas consumption requirements for heating nozzles.

			For use with 100FC Seri	es torch handle	heating nozzles.
Si	ze	Part Number			
2	2	0324-0108	For use with Acetylene or Hydrog	en (	
Z	1	0324-0109	Multi-flame heating head for heat		
6	5	0324-0110	treating, straightening, and	Model	MFA-1
8	3	0324-0111	priming.		

**MEDIUM DUTY HEATING NOZZLES** 

		_	
Size	Part Number		For use
000	0324-0068	3	0324-0073
00	0324-0069	4	0324-0074
0	0324-0070	5	0324-0075
1	0324-0071	6	0324-0076
2	0324-0072	7	0324-0077

## MEDIUM DUTY WELDING NOZZLES For use with 100FC series torch handles

- General purpose welding and preheating
- One piece copper elbow
- tip.Long cone flame
- For use with acetylene



Model W-1







## NO.38

Height: 41" Width: 19" Weight: 17lbs Combined Cylinder Diameter: 15" Wheel Diameter: 7"x 1.5" solid rubber

This popular model is designed to handle a 50 to 80 cubic ft. oxygen and 40 cubic ft. acetylene or 1 cylinder up to 8" in diameter and 1 cylinder up to 7" in diameter. This truck is ideal for use in repair shops, garages or where casual welding requirements may apply. Features include a reinforced frame, welding rod holders, zinc plated safety chain and large 7"solid rubber wheels.

#### **NO.39**

Height: 44" Width: 21" Weight: 22 lbs Combined Cylinder Diameter: 16 1/2" Wheel Diameter: 7" x 1.5" solid rubber

This popular model is designed to handle an 80 to 150 cubic ft. oxygen and 75 cubic ft. acetylene or 1 cylinder up to 8 1/2" in diameter and 1 cylinder up to 8" in diameter. This truck is ideal for use in repair shops, garages, or where casual welding requirements may apply. Features include a reinforced frame, handy tool tray, welding rod holders and zinc plated safety chain.

### WARNING

All Anthony products are designed for specific applications. Any use other than that of the manufacturers recommended use, or any unauthorized modification of any product, could be hazardous & voids any expressed or implied warranties.



NO. 39





## NO. 6114

Height: 46" Depth: 15" Width: 15" Weight: 30lbs Wheel diameter: 10" x 1.75" solid rubber Caster : 4" x 1" swivel/ post Cylinder capacity: 1

Model 6114 is a single cylinder cart recommended for the transport and handling of large high pressure cylinders. It features newly designed longer handles for ease of mobility, large 10" solid rubber front wheels and 4" rear casters for better maneuverability over carpets and rough or uneven surfaces. These units are also equipped with the newly designed and patented rear wheel retractable assembly. (Simply extend the rear mechanism into its locked position, tilt back and use.





## NO. 6110

Height: 46" Depth: 15" Width: 15" Weight: 23lbs Wheel Diameter 10" x 1.75" Solid rubber wheels

Model 6110 is a single cylinder cart recommended for the transport and handling of large high pressure cylinders.

Don't see what you need here? Contact a Robert's Oxygen store and learn about the large selection of other Anthony Welded products available. See page 3 for a location near you!







## NO. 85-10

Height: 46" Width: 25" Weight: 38lbs Wheel diameter 10" x 1.75", Solid rubber

This model is designed for two high or low pressure cylinders, side-by- side, of 9 1/4" each in diameter or any combination thereof. Features include the new "User Friendly" heavy gauge wrap around handle, high side rail design providing more positive cylinder containment, large tool tray and the exclusive fast action cylinder placement band with large tightening knob.

NO. 24-14

Height: 47" Width: 29" Weight: 53lbs Wheel diameter: 14" x 1.75", solid rubber

Model No. 24-14 is designed to hold a 244 to 330 cu. ft. oxygen and a 210 to 420 cu. ft. acetylene cylinder side-by-side. Features include Anthony's new "User Friendly"" heavy gauge wrap around handle to provide a more comfortable positioning of the hands for better control and maneuverability, high side rail design providing more positive cylinder containment, large tool tray and Anthony's exclusive fast action cylinder placement band with large tightening know.







## NO. 41-10

Height: 42" Width: 22" Weight: 34lbs Wheel diameter: 10" x 1.75, solid rubber

Designed for 80 to 150 cu. ft. oxygen and small or medium acetylene, this model features Anthony's "User Friendly " heavy gauge wrap around handle, high rail design providing more positive cylinder containment, large tool tray and the exclusive fast action cylinder placement band with a large tightening knob.

Call Robert's Oxygen and learn about the full line of Anthony oxygen/ acetylene cylinder trucks.



## **NO. 94LFW-16S**

Height: 60" Width 37" Weight: 178lbs Wheel diameter 16" x 4", Solid rubber

This model is one in Anthony's line of firewall cylinder trucks. This series is designed to restrict a flame generated from acetylene or other welding fuel gas placed adjacent to an oxygen cylinder on the same truck. The center baffle partition performs this function. It will restrict a flame generated by the fuel gas cylinder from heating the adjacent oxygen cylinder contents to such an extent that it causes expansion of the oxygen cylinder contents, which increases the PSI level higher than the D.OT. prescribed safe pressure level. Should the oxygen cylinder contents be expanded beyond the D.O.T. safe level, the expanded contents could activate the safety control burst disc, which would allow oxygen to be added to the fuel gas cylinder flame, causing a more intense or expanded flame. Features include a large slotted locking tool box, a solid steel axle, heavy duty lock nuts and the "fast action" "T" shaped cylinder band tighteners. Designed for large oxygen and acetylene cylinders.



NO. 94LFW-16S







NO. 610F-E

## ROBERTS

# **OXYGEN** Hypertherm

#### The benefits of Hypertherm technolog

- Superior speed and cutting capacity
- Longer parts life
- Lower operating cost
- Higher-quality cuts
- Safety

Reliability

Ease of use

-in a robust, porta cutting system.

## MANUAL SYSTEMS

Hypertherm has a wide variety of hand-held plasma cutting systems to meet your applications. Choose the thickness capacity below to pick the system that best meets your requirements

-Powermax190C-3/16 inch capacity (4.5mm)

-Powermax380-3/8 inch capacity (10mm)

-Powermax600-5/8 inch capacity (16mm)

-Powermax1000-1 inch capacity (25mm)

-Powermax1250-1 1/8 inch capacity (29mm)

# Hypertherm-the world leader in plasma cutting technology

When you do only on thing, you'd better do it better than anyone else. As the only major manufacturer to focus exclusively on plasma cutting technology, Hypertherm is committed to providing the highest quality systems in the world: improving the performance, reliability and value of their systems, and serving and supporting Hypertherm users. This commitment to technology leadership, quality and support makes Hypertherm the first choice of the true cutting professional.







## STICK AC/DC 225/125

The AC/DC 225/125 is the deluxe version of the world renowned AC-225 arc welder. The AC/DC 225/125 is an arc welding power source with an AC welding 0utput range of 40-225 amps and a DC welding output range of 30-125 amps. It is an extremely useful stick welding power source for maintenance repair, fabrication, construction, erecting and hardfacing applications. Can also be used for cutting and piercing holes in steel.



## Easy to install. Comes with attached input power cable and plug. Easy to operate with front mounted AC/DC polarity switch and full range amperage selector switch for accurate and dependable procedure setting. AC or DC welding output for complete stick welding versatility. Smooth arc makes it easy to weld with different electrodes, including mild steel, low hydrogen. Stainless steel and hardfacing electrodes. Use the electrode polarity switch on the front of the machine to select a DC welding arc where a stable arc is essential.

Select an AC welding arc for welding heavier plate where higher deposition rates and travel speeds are desired.

**Electrode selection chart** on the machine case provides quick and easy reference guide for amperage selection.

**225 amp AC output** is enough for 3/16" (4.8mm) diameter general purpose mild steel electrodes and 5/32" (4.0mm) sizes of other electrodes. Manufactured under an ISO 9001 certified quality system and ISO 14001 certified environmental standard.

#### **Base Unit Includes:**

-Insulated electrode holder and cable

- -Heavy duty work clamp and cable
- -Helpful welder's guide
- -Input cable with attached plug
- **3** Year Warranty on parts and labor

Product Name	Input Power	Rated Output Current/Voltage/ Duty Cycle	Input Current @ Rated Output	Output Range
AC/DC 225/125	230/1/60	AC: 225A/25V/20% DC: 125A/25V/20%	AC: 50 DC:36	20-225 Amps AC, Max OCV: 79V 125 Amps DC, Max OCV 73V 30-
AC/DC 225/125	220/1/50	AC: 225A/25/20% DC: 125A/25V/15%	AC:55 DC :41	50-250 Amps AC, MAC OCV: 76V 35- 135 Amps DC, Max OCV: 69V





# STICK, TIG, MIG, Flux– Cored, Gouging RANGER® 10,000

The Ranger 10,000 is the right choice for a general contractor, maintenance team, farmer or homeowner looking for a high-capacity AC generator with 10,000 watts peak (9000 continuous) for lights, tools and emergency standby power, mated with an AC/DC stick welder. In addition, the Ranger 10,000 extends your welding capability with basic TIG, MIG, and flux-cored welding.



10,000 Watts Peak Single Phase AC Generator Power for high capacity needs such as a back-up generator or powering a plasma cutter, lights, grinder or other power tool.

**Smooth AC/DC welding output** for abroad range of stick electrodes. Also capable of MIG, flux cored, and TIG welding (with additional, optional equipment).

Rangers have been subjected to an extensive testing program to ensure reliable operation in a wide variety of environmental conditions.

**Three Engine Choices-**Kohler®, Honda®, and Robin/Subaru® gasoline. All are 2 cylinder, 4 cycle OHV (0verhead valve) aircooled.

**Three year Lincoln warranty** on welder (engine is warranted separately by the manufacturer).

**Dimensions**: 30.3 in H x 19.1 in W x 42.3 in D 770 mm H x 485mm W x 1074 mm D

Specifications Rated Output Current/Voltage/Duty Cycle 225A Ac CC/25V/100% 210A DC CC/25V/100% 200A DC CV/20V/100%

Output Range 50-225A AC 50-210A DC 15-25V CV 10,000 watts peak, 9,000 watts continuous 20 HP @ 3600 rpm

Machine net weight will vary between 502lbs (228kg) and 528lbs (240kg) depending on engine selected.



## MIG (GMAW), Flux Cored (FCAW) MILLERMATIC 180 with Auto-Set<sup>TM</sup>

Semi-automatic constant voltage wire welding package capable of welding 24 gauge up to 5/16" mild steel



#### **Comes Complete With:**

- Power source
- 6ft(1.8m) power cord and plug
- 10ft(3m), M-10 MIG gun and cable assembly
- 10ft(3m) work cable with clamp
- Smith® Argon and Ar/CO<sub>2</sub>, mix regulator/flow gauge and gas hose
- Spool of Hobart® .030"(.8mm) solid wire
- Two contact tips for .024"wire and two contact tips for .030 wire
- Dual groove quick-change drive roll for .024" or .030"/.035 " (0.8/0.9mm) wire
- Factory-installed gas solenoid valve
- Set-up and operation video
- Information/settings chart

#### **Input Power:**

Requires 1-Phase Power

#### Welding Amperage Range:

- 30-180 Amps
- 230V, 21.7A, 60 Hz, Single Phase

Rated Output: 135A at 22.5 VDC, 30% Duty Cycle Wire Speed
40-460 IPM(1.0-11.7 m/min)
Net Weight
72 lbs (33 kg)

**New!** Auto-Set  $^{TM}$  is a breakthrough control that automatically sets your welder to the proper parameters. Auto-Set offers all-in-one MIG, minus the guesswork!

**Smooth Start™** patent pending technology provides a smooth, spatter-free start. It's the best-starting machine in the small MIG machine category. No pop gun starts and no spatter to clean up

**New spool gun compatible!** Finally a reliable and economical way to weld aluminum. Hooked up to a Millermatic 180 or 180 with Auto-Set, the new Spoolmate 100 Series spool gun allows you to weld from 18 gauge to 1/4" aluminum.

**Manual Mode** has the flexibility to manually set weld parameters for broader applications.

**Durable cast aluminum feedhead** incorporates dual-groove quickchange drive roll and spring-loaded tension arm with calibrated tension knob all designed to make setup easier and faster.

Miller's exclusive "Tip Saver" short circuit protection shuts down output when tip is shorted to the work. Extends contact tip life and protects internal components from damage. Trigger reset permits quick reset at torch rather than unit.

Easy access to output studs provides **convenient polarity changeover** when changing from solid or flux cored wires.

**Thermal overload protection** shuts down unit and activates **over temperature light** if airflow is blocked or duty cycle is exceeded. Automatically resets when fault is corrected and unit cools.

**Standard built-in solid-state contactor circuit** makes wire electrically "cold" until trigger is pulled, making the unit safer. It's also easier to position torch to work before starting weld.

**Self-resetting motor protection circuit** eliminates the need to fine and replace fuses.

**Uses 4 or 8 inch spools** and can be set up to weld with wire sizes .024"-.035" mild/stainless steel and .030"-.035" flux cored.

#### **Applications:**

Light Fabrication Maintenance and Repair Auto Body Farm/Ranch/Home

23



# MIG (GMAW), Flux Cored (FCAW) MILLERMATIC ® 212

Welds material from 22 gauge to 3/8 in thick in a single pass. Now with new angled drive system and other great new features.



#### **Comes Complete With**

- Power source included
- 15ft (4.6m), 250 amp M-25 MIG gun for .030/.035 in wire
- 10ft (3m) work cable and clamp
- Factory-installed dual gas solenoids
- Argon mix regulator/flow gauge w/hose
- New! Factory installed running gear with EZ Change<sup>TM</sup> Low Cylinder Rack
- .030/.035 in. reversible drive rolls
- Extra contact tips, set up and operation video
- Set-up and operation interactive CD

#### Specifications

Input power : Requires 1-Phase Power Rated Output: 160 Amps at 24.5 VDC, 60% duty cycle

Welding Amperage Range: 30–210 amps Wire Speed: 35-700 IPM (0.9-17.8 m/min) Net Weight: 200lbs (91kg)

#### Features

- E-Z View<sup>TM</sup> Control Panel
- EZ-Access<sup>TM</sup> Consumable Compartment and Parameter Chart
- Dual Front Handles
- E-Z Change Low Cylinder Rack
- Angled Wire Drive
- Elevated Gun & Cable Rack

**Seven taps provide wider welding range of 30-210amps** with improved high and low ends to weld materials from 22 gauge up to 3/8 in (9.5mm) thick in a single pass.

**New!** Angled, dual-gear-driven, cast aluminum drive system features no-tool, quick-change reversible drive rolls and easy-to-set, scaled tension knob.

**New!** Patent-pending EZ-Change<sup>TM</sup> Low Cylinder Rack allows operators to easily roll cylinders on and off of rack– No need to lift cylinders.

Add the optional Spoolmate <sup>TM</sup> 3035 spool gun for aluminum welding. Easy to install with new, direct hook up. And with Miller's exclusive Gun-On-Demand<sup>TM</sup>, simply pull the trigger for either gun and you're ready to weld. No wasted time installing modules and using toggle switches.

**Thermal Overload Protection** Internal components are protected from damage by thermal overload protection which automatically shuts down the unit if duty cycle is exceeded or air flow and cooling are restricted.

**New! EZ-Access<sup>TM</sup> Consumable Compartment & Parameter Chart** -convenient new flip down compartment that provides fast access to parameter chart and consumables.

New! Larger work area- now with longer 15ft M-25 gun.

Less weld cleanup with Active Arc Stabilizer- patented Miller design provides excellent starts proven superior to the competition.



# MIG (GMAW), Flux Cored (FCAW) MILLERMATIC® 252

Welds material from 22 gauge to ½ in thick in a single pass. Highest output in its class.



#### **Comes Complete With**

- 15ft (4.6m), 250 amp M-25 MIG gun
- 10 ft work cable with clamp
- Factory-installed gas solenoid
- Smith® argon mix regulator/flow gauge with hose
- 10ft industrial power cord and plug (plug on
- 200/230V model only)
- Factory-installed running gear/cylinder rack
- .030/.035 in reversible dual groove drive rolls
- Extra contact tips
- Set-up and operation video.

#### Specifications

- Input Power: Requires 1-phase power
- Rated Output: 200 Amps at 28 VDC, 60% duty cycle 250 Amps at 28 VDC, 40% duty
- Welding Amperage Range: 30—300 Amps
- Wire Speed: 50-700 IPM (1.3-17.8m/min)
- Net Weight– 207lbs (94kg)

#### Features

- EZ-View <sup>TM</sup> Control Panel
- Integrated Timers Menu
- Auto-Gun Detect TM
- EZ-Access<sup>™</sup> Consumable Compartment & Parameter Chart
- Dual Front Handles
- EZ-Change Low Cylinder Rack
- Angles Wire Drive
- Elevated Gun & Cable Rack
- Push-Pull Gun Direct Connect

Highest output in its class (250A at 28 VDC) Weld longer on high end applications.

**New!** Large, digital front panel with built-in digital timers menu enable operator to preset voltage and wire feed speed. Standard run-in, pre/post flow, burnback, spot/delay (stitch) timer menu.

**New! Auto Gun Detect** <sup>TM</sup> allows operator to simply pull trigger on MIG gun, spool gun, or push/pull gun. Automatically detects and recalls the voltage, wire feed speed, and timer of the active gun.

**New! Push/Pull Gun Direct Connect**-now directly connects your push-pull gun, no extra module required.

**New! Angled, dual-gear driven, cast aluminum drive** system features no-tool, quick-change reversible drive rolls and an easy-to-set, scaled tension knob.

**New! Patent-pending EZ-Change<sup>TM</sup> Low Cylinder Rack** allows operators to easily roll cylinders on and off of rack-no need to lift cylinders.

**New! EZ-Access<sup>TM</sup> Consumable Compartment & Parameter Chart**—set weld parameters right the first time with convenient new flip-down compartment that provides fast access to parameter chart and consumables.

**New! 15 ft (4.5m) M-25 gun** features durable one-piece handle, unicable outer jacket, trigger rated for one million cycles and steel spring coils protecting cable ends.





## CUTMASTER® TRUETM SERIES 39



The new and improved CUTMASTER® TRUE<sup>TM</sup> Series has been designed with the idea that recommended cut capacity should also be the TRUE cut capacity

The TRUE cut Series eliminates the concept of having to "buy up", purchasing a machine larger than you actually need.

The CUTMASTER® TRUE<sup>™</sup> Series microprocessor controlled front panel LED's assure extreme operator confidence and error free use from setup to clean up.

The CUTMASTER TRUE Series allows you to work all day at our recommended cut capacity. But; when you need that extra punch, you can be confident that it's there.

The Thermal Dynamics CUTMASTER TRUE Series plasma system offers the only 60 Amp drag cutting tip on the market today.

The new **MULTI-VOLTAGE** CUTMASTER TRUE Series features the flexible, patented 1Torch®. There's one set of consumable parts for the entire range of machines, lead extensions provide cutting up to 100'(30.5m) from power supply, and the flexibility to move quickly from hand to mechanized cutting with the change of a torch. (Add PCD for CNC interface)

The CUTMASTER TRUE Series offers lighter, more portable machines without compromising performance.

The **CUTMASTER 39** provides the same reliability and performance you have come to expect from the CUTMASTER Series. This 30 Amp unit produces quality cuts for gauge all the way up to maximum cut of 5/8"(15mm). Unlike some of its competition, the CUTMASTER 39 also offers features like auto pilot restart, ATC® torch quick disconnect, and automatic voltage selection.

The **CUTMASTER 39** is the most durable 1/4" (6mm) plasma cutting machine on the market today.

Features TRUE GUARD<sup>TM</sup> , a rugged roll bar for added durability.

### Applications Include:

- Auto Body Repair
- Plumbing
- Home Shop
- Metal Stud Construction
- HVAC
- Metal Building & Roofing Construction
- Marine Repair & Rental Fleets

### SPECIFICATIONS

- 1/4" (6mm) Recommended Cut
- 5/8" (15mm) Maximum Cut
- 1/4" (6mm)Pierce Rating
- Input Voltage: 120-230V, 1, 50/60 Hz
- Output Power (kw) 2.8
- Maximum Amperage Output (Amps) 30
  - Duty Cycle- (@40°C) 35%@30A 60%@22A
- Dimensions (H x W x L) 15" x 12" x 24" (381mm x 305mm x 610mm)
- Weight: 39lbs (17.7kg)
- Torch Model : SL60
- Air Pressure: 65psi (4.5 bar)
- Flow: 5cfm (141 L/m)
- Warranty: 4 year power supply unlimited. 1 year Parts and Labor





## CUTMASTER TRUETM SERIES 52



The new and improved CUTMASTER® TRUE<sup>TM</sup> Series has been designed with the idea that recommended cut capacity should also be the TRUE cut capacity

The TRUE cut Series eliminates the concept of having to "buy up", purchasing a machine larger than you actually need.

The CUTMASTER® TRUE<sup>TM</sup> Series microprocessor controlled front panel LED's assure extreme operator confidence and error free use from setup to clean up.

The CUTMASTER TRUE Series allows you to work all day at our recommended cut capacity. But; when you need that extra punch, you can be confident that it's there.

The Thermal Dynamics CUTMASTER TRUE Series plasma system offers the only 60 Amp drag cutting tip on the market today.

The new **MULTI-VOLTAGE** CUTMASTER TRUE Series features the flexible, patented 1Torch®. There's one set of consumable parts for the entire range of machines, lead extensions provide cutting up to 100'(30.5m) from power supply, and the flexibility to move quickly from hand to mechanized cutting with the change of a torch. (Add PCD for CNC interface)

The CUTMASTER TRUE Series offers lighter, more portable machines without compromising performance.

The **CUTMASTER 52** is the most powerful and lightest weight 1/2" (12mm) machine on the market today.

The 60 Amp tip allows the system to drag cut up to 1/4" (6mm) with ease, giving the absolute best cut quality possible.

This **CUTMASTER 52** cuts through mild, stainless, or aluminum up to 1 1/8" (30mm) thick.

The **CUTMASTER 52** combines power with the well known performance and features of the industry-leading 1Torch<sup>®</sup>.

### **Applications Include:**

- Construction
- Maintenance/Repair
- Fabrication

## Specifications

- Recommended Cut-1/2" (12mm)
- Maximum Cut: 1 1/8" (30mm)
- Pierce Rating: 1/2" (12mm)
- Max Amperage Output: 60 Amps
- Output Power:: 6.2 KW
- Input Voltage: 208/230V-460

   1/3 Phase 50/60Hz
   400V, 3 Phase, 50Hz
   600V, 3 Phase, 50/60 Hz
- Duty Cycle (@40°C): 40%@60A, 60%@55A, 100%@50A
- Dimensions: 15" x 12" x 24" 381mm x 305mm x 610mm
- Weight: 43lb (19.5kg)
- Torch Model: SL60 Hand SL100 Mechanized
- Air Pressure: 75psi (5.2 bar)
- Warranty: 4 years Unit and Torch 1 year Parts & Labor



## **TWECO MIG GUNS**

## Compact Eliminator ® Style MIG Guns

250, 350, 450 AMP AIR-COOLED / 60% DUTY CYCLE, C02 Gas

- Front and rear spring strain relief and cable support
- Compact, ergonomic handle design
- Durable metal jacketed conductor tube
- Patented, extended life consumables



#### Tweco/Miller/ Lincoln/ Euro-Kwik Rear Connection Style

Note: Not all sizes and lengths are available for each brand listed. Adaptor plugs may be required for some feeders. Please

MIG Gun	Wire Size Capability	Cable Length Available
250 Amp Eliminator	.035" .045"	10ft, 12ft, 15ft 10ft, 12ft,15ft, 20ft, 25ft
350 Amp Eliminator	.035"045"	10ft, 12ft, 15ft
450 Amp Eliminator	.035"045" .045"-1/16"	10ft, 12ft, 15ft, 20ft, 25ft 20ft, 25ft

## No. 1 MIG-Guns

180 Amp Air-Cooled 60 duty cycle, CO<sub>2</sub> Gas

- Neoprene insulated quick-change conductor tubes swivels 360°
- Enhanced direct plug capabilities

#### Tweco/Miller/Lincoln/Euro-Kwik Rear Connection Style

Note: Not all sizes and lengths are available for each brand listed. Adaptor plugs may be required for some feeders. Please call Robert's Oxygen Company for availability and adaptor information.

Wire Size Capability	Cable Length Available
.023"	10ft
.030"035"	10ft, 12ft, 15ft 20ft
.040"045"	10ft, 12ft, 15ft, 20ft





## **TWECO MIG GUNS**

#### Professionals Choice MIG-GUNS 200, 300, & 400 Amp, Air -Cooled 60% Duty Cycle, CO<sub>2</sub>

- Industry Standard
- Metal jacket conductor tube
- Enhanced direct plug capabilities

## NO. 2 MIG-Gun Assemblies



### Tweco/Miller/ Lincoln/ Euro-Kwik Rear Connection Style

Note: Not all sizes and lengths are available for each brand listed. Adaptor plugs may be required for some feeders. Please call Robert's Oxygen Company for availability and adaptor information.

Wire Size Capability	Cable Length Available
.030"035"	10ft, 12ft, 15ft, 20ft, 25ft
.040"045"	10ft, 12ft, 15ft, 20ft, 25ft

## NO. 3 MIG-Gun Assemblies

## Tweco/Miller/ Lincoln/ Euro-Kwik Rear Connection Style

Note: Not all sizes and lengths are available for each brand listed. Adaptor plugs may be required for some feeders. Please call Robert's Oxygen Company for availability and adaptor information.

**300 AMP** 

Wire Size Capability	Cable Length Available	
.035"045"	10ft, 12ft, 15ft, 20ft, 25ft	
.045"-1/16"	10ft, 12ft, 15ft, 20ft, 25ft	

## NO.4 MIG-Gun Assemblies

#### Tweco/Miller/ Lincoln/ Euro-Kwik Rear Connection Style

Note: Not all sizes and lengths are available for each brand listed. Adaptor plugs may be required for some feeders. Please call Robert's Oxygen Company for availability and adaptor information.



Wire Size Capability	Cable Length Available
.035"045"	10ft, 12ft, 15ft, 20ft, 25ft
.045"-1/16"	10ft, 12ft, 15ft, 20ft, 25ft
5/64"	10ft, 12ft, 15ft



## **TWECO ELECTRODE HOLDERS**

Twecotong® Electrode Holders

Twecotong<sup>®</sup> Electrode Holders feature reversible top and bottom insulator. Efficient 6-position jaw patterns and fully insulated, protected springs. Ball-point cable connection is also featured.



Stock Number	Model Number	Amperage Capacity	Body Alloy	Electrode Capacity	Cable Connection Capacity	Length
9110-1101	A-532	200	Copper Alloy	Thru 5/32"	Ball-Point thru 2/0	8 1/2"
9110-1102	A-316	250	Copper Alloy	Thru 3/16"	Ball-Point thru 2/0	9 1/4"
9110-1103	A-732	300	Copper Alloy	Thru 7/32"	Ball-Point thru 2/0	10"
9110-1104	A-14	350	Copper Alloy	Thru 1/4"	Ball-point thru 4/0	11"
9110-1105	A-14HD	400	Copper Alloy	Thru 1/4"	Double Ball-Point thru 4/0	12"
9110-1106	A-38-HD	500	Copper Alloy	Thru 3/8"	Double Bal-Point thru 4/0	13 1/4"

## TWECO GROUND CLAMPS



Stock Number	Model Number	Amperage Capacity	Jaw Opening	Cable Connection Capacity	Length
9205-1330	FGC-300	300	1"- Depth 3 1/2"	Ball-Point thru 3/0	7 1/4"
9205-1120	GC-200	200	1"- Depth 3"	Ball-Point thru 1/0	6"
9205-1130	GC-300	300	1 1/2"- Depth 4"	Ball-Point thru 3/0	8 1/2"
9205-1150	GC-500	500	2"- Depth 5 1/4"	Ball-Point thru 4/0	10"
9210-1150	GC-600-50	500	2 1/2"- Depth 1 3/8"	1/2" Cap Screw	
9210-1202	GC-600-TMP	600	2 1/2"- Depth 1 3/8"	Tweco Male Plug	





## **ARCAIR ANGLE-ARC® MANUAL GOUGING TORCHES**

Arcair Angle-Arc Torches are highly efficient metal removal tools for fabrication jobs in steel fabrication plants, shipyards, railroads, farms... anywhere people want to save time and money.. They speed up weld removal, backgouging, edge preparation, defect repair and many other metal removal jobs. They are ideal for almost all metals– with little or no deformation because the heat input is so low.

Angle-Arc Torches work efficiently with the natural angles and movement of the arm and wrists. This major advance in gouging and cutting equipment delivers rugged reliability.

C L + (K2000*)	8 (K3000)	
K2000	K3000	K4000
Light Duty	Medium Duty	Heavy Duty
Accepts: Pointed Carbons: 1/8" (3mm) to 1/4" (6mm) Flat Carbons: 3/8" (10mm)	Accepts: Pointed Carbons: 1/8" (3mm) to 3/8" (10mm) Flat Carbons: 3/8" (10mm) & 5/8" (16mm)	Accepts: Pointed Carbons: 5/32" (4mm) to 1/2" (13mm Flat Carbons: 3/8" (10mm) & 5/8" (16mm)
Maximum 450 Amps Compressed air: Pressure: 40 psi (2.8kg/cm²) Flow Rate: 8 cfm (0.23m³/min)	Maximum 600 Amps Compressed air: Pressure: 80 psi (5.6kg/cm²) Flow Rate: 21 cfm (0.60m³/min)	Maximum 1000 Amps Compressed air: Pressure: 80 psi(5.6kg/cm2) Flow Rate: 28 cfm (0.79m3/min)
Torch & Cable Weight: 3.6 lbs. (1.6kg) Ordering Information	Torch & Cable Weight: 4.0 lbs. (1.8kg)	Torch & Cable Weight: 5.4 lbs. (2.4kg)

## Ordering Information

#### (PART NO.)

	Torch Only	Torch w/ 7ft. Cable	Torch w/ 7ft. Cable & Insulated Hook-Up Kit	Torch w/ 10ft. Cable	Torch w/ 10ft. Cable & Insulated Hook-Up Kit
K2000	01-046-001	61-046-006	61-046-002	61-046-007	61-046-003
K3000	01-065-001	61-065-006	61-065-002	61-065-007	61-065-003
K4000	01-082-002	61-082-008	61-082-006	61-082-009	61-082-007

### **Features and Benefits**

- Natural 15<sup>•</sup> Torch Angle for greater operator comfort.
- **360' Swivel Cable**-less cable twist and less strain on operator
- **Positive Grip Handle**-Greater operator feel and ease in positioning the torch
- **Reduced Weight** Optimum cable and torch weight to minimize fatigue
- **High Quality Cable Hose**-Best quality cable hose offers high heat and abrasion resistance
- **Rugged Construction**-Overall rugged construction for the harsh environment.





## SLICE® EXOTHERMIC CUTTING SYSTEM



### Slice® Utility Pack (63-991-026)

Unlike any other cutting process used today, Arcair® SLICE® systems can cut, burn or pierce virtually any metallic, non-metallic or composite materials. The SLICE® exothermic torch cuts right though hard-to-cut materials such as mild, stainless and alloy steels, cast iron, aluminum, magnesium and other non-ferrous metals, slag and refractory materials, and concrete or brick.. Even if it's caked with rust, mud or other corrosion, SLICE® will cut through anything. The Slice® Utility Pack has the basic items need to do a cutting job packed in a rugged tool box. Just supply oxygen and an ignition source and you are ready to cut.

Other Slice<sup>®</sup> Cutting Systems are available. Please contact Robert's Oxygen Company for more information.

## AIR CARBON ARC ELECTRODES

Arcair® Gouging Electrodes



- Excellent arc stability
- Superior metal removal rate
- Cool operation
- Uniform diameter
- Clean machine-like grooves or cuts

#### **DC** Copperclad Pointed Electrodes

A standard all purpose gouging electrode. Controlled copper coating improves conductivity providing more efficient, cooler, operation and helps maintain electrode diameter at the point of the arc.

# Available in 12" length x 1/8", 5/32", 3/16", 1/4", 5/16" and 3/8" diameters. Also available in 14" x 1/2" diameter.



#### Protex® Extra Anti-Spatter

With Protex® anti-spatter, you are ready to weld in one minute or less. This can be as much as ten times faster than ordinary non-toxic anti-spatters. Safe and non-flammable, Protex Extra contains no fluorocarbons or chlorinated solvents. Because the new non-aerosol uses no chemical propellants, it is environmentally safe. Protex Extra keeps spatter off MIG gun nozzles, tips, fixtures and work surfaces, whether you're welding, cutting or gouging. It can be used on all types of metals, including aluminum and stainless steel without corrosion or discoloring in the weld area







CAST IRON ROD

**85FN** Ferro-Nickel type. Fast deposition. For welding high strength nodular and ductile iron to each other or to steel. Good for production welding. AC or DC reverse polarity **Tensile Strength:** 70,000 psi **Elongation:** 20% **Hardness:** 180 Brinell

81 For welding or buttering really dirty, oily and badly contaminated cast iron. Limit hardness in transition zone by preheating base metal.. The weld deposit rusts. AC or DC reverse polarity.
Tensile Strength: 56,000 psi
Hardness : 300-330 Brinell

**Econocast 55** Ideal and user friendly. Economical electrode for welding all types of cast iron. **Tensile Strength:** 85,000 psi **Elongation:** 15 % **Hardness:** 180 Brinell

Econocast 99 Premium, economical, machinable, high Nickel Electrode for cast iron Tensile Strength: 68,000 psi Elongation: 25% Hardness: 170 Brinell

## CARBON STEEL -ALLOY STEEL-DISSIMILAR STEEL

612 Excellent on light gauge sheet, rusty steel and for vertical downhand welding of all kinds and shapes of mild steel. A perfect maintenance welding electrode. AC or DC straight or reverse polarity.
Tensile Strength: 72,000 psi
Elongation: 25%

**614 Kb** Unique double coated Low Hydrogen Electrode. Additional coating prevents moisture pick up; therefore, well suited for outdoor environments. Excellent on AC. AC or DC reverse polarity **Tensile Strength:** 79,000 psi **Elongation:** 32%

**653** Special Electrode for joining and overlaying all steels. Deposit work-hardens and is heat-resistant. A good all purpose Maintenance alloy. AC or DC reverse polarity **Tensile strength:** 112,000psi

**65** Top strength, highly crack-resistant, low heat input austentic-ferritic multi-purpose welding electrode for welding dissimilar steel, alloy steel, tool steel, spring steel stainless steel, manganese steel, etc. AC or DC reverse polarity.

## **ALUMINUM- WHITE METALS**

**48** High quality extruded general purpose Aluminum Welding Electrode. Good arc stability and high tensile values assure success on all common grades of Aluminum, particularly on castings. DC reverse polarity.





## STAINLESS STEEL ELECTRODES AND WIRES

**308L Fe Hp** High deposition rate for maintenance and production welding. **AWS Designation:** E308L-16

**6824 Lc** For welding 309 type stainless steel and carbon steel to stainless steel. Low carbon content. **AWS Designation :** E309L-16

**6824 MoLC** For welding similar and dissimilar stainless steel. **AWS Designation:** E309Mol-16

**6820 Nb** Stabilized grade, helps to prevent carbide precipitation. **AWS Designation:** E347-16

## NICKEL- COPPER NICKEL ALLOY

**7015 Mo** For welding INCOLOY® 800 & 9% Nickel steels. For crack-resistant joints of dissimilar alloys, austenitic and ferretic steels, as well as heat treating components.

## HARDFACING

**7200 ac-dc** Manganese Alloy composition. Work hardens up to 450 Brinnell. For applications subject to high impact and wear.

Hardness: work-hardens upon impact

**67S ac-dc** Resists impact and abrasion. Cutting edges on dies, tamper tools, pile drivers, mill hammers. **Hardness:** 55-60 RC

**DUR 600 (UTP6700)** All purpose Hardfacing Electrode. Truck pads, bucket conveyors **Hardness:** RC

**LEDURIT 61 (UTP711B)** Highly alloyed Chromium Carbide Hardfacing. Deposit is extremely smooth. For shovels, scoopers, earth moving equipment. **Hardness:** 60 RC

**7100 ac-dc** For resistance to abrasion. Dredging units, chutes, etc. **Hardness:** 63RC

LEDURIT 65 (UTP 713) Base-coated high-efficiency electrode for resistance against extreme mineral abra-

sion. Recovery 240%. Main applications are hardfacing on earthmoving machinery, wearing parts in cement and brick making industries as well as steel industry. Fire grate bars and teeth in sintering plant at elevated temperatures of up to 500°C/932°F. **Hardness**: approx. 65 HRC






#### Atom Arc 7018 (SMAW)



#### **Applications**

- Shipbuilding
- General
- Fabrication
- **Civil Construction** .
- Mobile Machinery •
- Railroad Car
- Automotive •
- Bridge Construction
- Atom Arc 7018 is available in a large variety of diameters, lengths and packaging options. Please call Roberts's Oxygen for availability and pricing.

operator appeal and consistent quality.

# Dual Shield 7100 Ultra (FCAW)

Dual Shield 7100 Ultra is an all-position wire with a uniquely balanced formulation to provide greater deposition and improved welding productivity. This product has a wider range of operating parameters and produces lower welding fumes than other E71T flux cored wires. The low spatter levels and easy slag removal minimizes post weld cleanup. Dual shield 7100 Ultra can be used with either CO2 or 75% Argon/25% CO2. This versatility in gas selection provides the fabricator greater flexibility in choosing both wire and gas. This all position wire is extremely versatile for a variety of applications including railcar and earth moving equipment, as well as general structural steel fabrication.

#### Classifications/Approvals

- DEUTSCHE BAHN •
- CONTROLAS
- G.L.- 3YH15S •
- B.V.-SA3YM(H) •
- L.R.-3S, 3YS(H10) •
- AWS A5.20; E71T-1CH8/T-1M/ . T-9CH8/T-9M
- A.B.S.-3SA.3YSA •
- CERTIFIED BY C.W.B.-CSA • W48
- D.N.V.-III YMS

Dual Shield 7100 Ultra is available in a variety of diameters and spool weights. Please call Robert's Oxygen for availability and pricing.

#### **Applications**

Classifications/Approvals

L.R.-3m,3Ym(H10)

QPL-22200/1: MIL-7018

AWS A5.1; E7018H4R

ASME SFA 5.1

- Mobile Machinery
- General Fabrication
- Shipbuilding
- Bridge Construction
- Railroad Car
- Automotive
- Process
- Civil Construction



- A.B.S.-2Y/AWS A5.1: E7018
- CERTIFIED BY C.W.B.-CSA W48
- D.N.V. 3Y(H10)

Atom Arc 7018 was introduced in the United States in 1952 and continues to set the standard by which all other covered electrodes are judged. This low hydrogen, moisture resistant electrode is know throughout the world for its superior welding performance, tough mechanical properties, crack resistance, high

Atom Arc 7018 is an all-position low hydrogen moisture resistant

electrode. The wider operating ranges and smooth weld metal transfer minimizes post weld clean up. This premium quality electrode meets a multitude of codes and welding specifications. Atom Arch 7018 was developed to weld carbon and low-alloy

steels, including a variety of hardenable steels.

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# **SOLDERS**





These tin/lead solders can be used with some exceptions to join copper and most copper alloys, lead, nickel alloys and steel. Tin/lead solders are not recommended for joints subject to high stress or vibration in the cooling industry due to lack of sufficient elongation properties. These solders are also available with rosin or acid core. *Note: It is illegal to use lead solder in both public and private potable water systems.* 

95/5

Tin/antimony solder well suited for applications where moderately elevated temperature is a factor. With higher electrical conductivity and high fluidity, 95/5 is recom-

mended for lead free installations of small diameter, tight fitting connections. Not recommended for use on brass or HVAC

#### Stay-Brite<sup>®</sup> and Stay-Brite 8

Silver-bearing solders often used throughout the refrigeration/air conditioning industry instead of brazing alloys. Both Stay-Brite and Stay-Brite 8 produce an overall component with greater strength than a brazed component whose base metals are weakened by annealment from high brazing heat. Stay-Brite solders bond with all of the ferrous and non-ferrous alloys. Joints soldered with Stay-Brite solder exhibit considerably higher than necessary elongation for sound, dissimilar metal joints and vibration applications. Stay-Brite 8 is especially effective in filling loosely fitted couplings.

#### Stay-Silv® 5

Primarily useful where fit-up can not be tightly controlled. *Stay-Silv*® *15* The industry standard for air conditioning/refrigeration applications.

#### **Bridgit**®

Lead-free solder widely used in lubing applications where lead-bearing solders are prohibited. Contains nickel, making joints tremendously strong. Wide plastic range makes Bridgit an excellent alloy for large diameter fittings and ill-fitted non-concentric pipes. Fills gaps and caps off easily and effectively.

# SOLDERING AND BRAZING FLUXES

#### Stay-Clean®

**Liquid Soldering Flux**: For almost all metals other than aluminum, magnesium or titanium. Use with Stay-Brite solders or practically any other solder with a liquidus temperature below 700°F. Not recommended for electrical or electronic applications. Meets Commercial Spec. A-A-51145C, Form B

Aluminum Flux: Use with Stay-Brite solders or Alsolder 500 to join aluminum to aluminum and to most other metals, including stainless.

**Paste Soldering Flux:** Excellent flux for joining copper to copper and copper to brass. Not recommended for electric or electronic applications. Meets Commercial Spec. A-A-51145C, Form A

#### Stay-Silv®

**White Brazing Flux:** For use with silver brazing alloys on all metals other than aluminum, magnesium or titanium. Effective to 1600°F. Meets Fed. Spec OF499, Type B; AWS A5.31, Class FB3A; AMS 3410

**Black Brazing Flux:** For use with silver or other brazing alloys with liquid temperature below 1800°F. Recommended for stainless steel, heavy parts, and whenever heating cycle is prolonged. For all metals other than aluminum, magnesium or titanium. Meets AWS A5.31, Class FB3C; AMS 3411; Fed Spec. 0-F-499D, Type B.









#### *HB28 (AWS ER70S-6) Description:* HB-28 is

a mild steel, copper coated, solid welding wire that combines excellent weldability with high deoxidizer content for welding with CO2 and other available shielding gases. The deoxidizers allow for welding of moderately scaled and rusty plate without precleaning The arc is exceptionally stable and smooth with minimal spatter. Bead appearance is smooth and nearly flat with good wetting characteristics which allow the bead to tie in uniformly with the sides.

**Applications:** HB-28 is recommended for general fabrication where idizing elements and high quality weld metal insure sound porosity free

rusty and oily plates may be used. Deoxidizing elements and high quality weld metal insure sound porosity free welds over a wide variety of applications. Excellent for out of position work. HB-28 can be used on many high strength-low alloy weldments including pressure vessels, pipe and shaft build-up. The fabrication of tanks, farm implements and the repair of steel castings are other uses for HB-28. Auto bodies and very thin sheet metal (as thin as 24 gauge) can be welded with .024" diameter HB-28 when shielded with 75% argon / 25% CO<sub>2</sub>. *Features and Benefits:* High in deoxidizers, high welder appeal, welds rusty and oily plates, low spatter level, minimal after weld clean up, virtually slag free and excellent feedability.

*Shielding gas:* CO<sub>2</sub>, 75% Argon / 25% CO<sub>2</sub>, and other commercially available shielding gas mixtures Available in .024", .030", .035", .045", .052" and 1/16" diameters.

#### FabCO TR70 (AWS E70T, E71T-1)

**Description:** FabCO TR70 is designed for general purpose use in the flat and horizontal position with  $CO_2$  gas shielding. With the use of additional deoxidizers in its flux, FabCO TR70 permits the welder to weld through rust, mill scale and light oil with a minimum of precleaning. FabCO TR70 welds with very light spatter and particulate fume generation.

*Applications:* FabCO TR70 is primarily designed for flat and horizontal position welding of mild and low alloy steels in single and multi-pass applications. Small diameters can also be taken out-of-position

*Features and Benefits:* High deposition rates (over 25lbs/hr with 3/32" diameter), flat bead profile with multipass fillet welds, low hydrogen weld deposit, easy slag removal, excellent for deep groove applications, stable arc with long stickouts for easy gap filling, resists weld cracking on heavy plate and restrained joints and very flexible amperage/voltage range.

#### Shielding gas: 100% carbon dioxide (CO<sub>2</sub>)

Small diameters (.045", .052" and 1/16" diameters are classified as E71T-1

#### PIPEMASTER® 60

*Description:* Pipemaster 60 (AWS E6010) is an all position cellulosic mild steel electrode that has quick starting, excellent arc stability, superior arc drive (penetration), light slag and excellent wash-in. Pipemaster 60 also produces x-ray quality welds.

*Applications:* Pipe welding, general purpose fabrication and maintenance welding, vertical and overhead plate welding, out of position x-ray welds construction and

#### **Recommended Welding Procedures:**

*General:* Electrode positive, work negative (DCEP) *Arc:* Stay ahead of puddle and use slight whipping motion *Vertical Up*: Slight whipping or weaving technique *Vertical Down:* Use higher amperage and faster travel staying ahead of puddle *Overhead:* Use similar technique as for vertical up. Multi-pass for buildup. *Storage of contents of open cans:* Dry at room temperature *Reconditioning:* Not recommended Available in 3/32", 1/8", 5/32" and 3/16" diameters









#### Fabshield 23 (AWS E71T-GS)

**Description:** Fabshield 23 is a general purpose, self-shielded, tubular wire. Good wetting action and a smooth spray arc type of transfer makes this a versatile wire. Very low spatter levels and excellent appearance lend to operator appeal. Fabshield 23 is designed to be used for all position welding. A good general purpose wire for single pass welds in most applications.

*Applications:* Fabshield 23 is suitable for single pass applications. Especially suited for fillet and lapwelds of thin gauge mild or galvanized steel. Typical applications include railroad car repair, prefab

building fabrication, tanks, excavation equipment, and general fabrication. The .035" and .045" diameters are extremely advantageous in auto body repair, ornamental iron, farm implement repairs, and similar light duty applications.

*Features and benefits:* Good penetration, x-ray quality weld metal, no external shielding gas required, no stub end loss as with stick electrodes, less operator skill required and excellent operator appeal.

#### Tri-Mark Metalloy Vantage (AWS E70C-6M H4)

**Description:** Metalloy Vantage is a metal-cored wire with fewer silicon islands that other metal-cored wires. Weld bead toe lines are almost completely free of silicon deposits, eliminating troublesome cleanup time and effort. In addition, the weld bead face is virtually free from silicon island deposits; those remaining islands of silicon are almost self peeling. Together with exceptional low spatter rate, Metalloy Vantage will save time and money spent cleaning prior to painting, coating, or plating. The wire is recommended for single-pass and multi-pass welding in both the flat and horizontal positions. The recommended shielding gas is a mixture of argon and carbon dioxide , with a minimum of 75% argon and a maximum of 95% argon. Arc characteristics improve with richer argon gases while spatter fume levels decrease.

Applications: Railcar, automotive, general fabrication

*Features and benefits:* Exceptionally clean weld beads with minimal silicon islands, weld bead toe lines are almost completely free of silicon deposits, better wetting action than solid wire, better gap bridging and reduced burn through than solid wire, higher deposition rates and travel speeds than solid wire and better side wall fusion that solid wire.

*Shielding gas:* 75%-90% Argon/Bal. CO<sub>2</sub>, 35-50 cfh Available in .035", .045", .052" and 1/16" diameters

#### Tri-Mark Metalloy 76 (AWS E70C-6M H4)

**Description:** Metalloy 76 has a higher deoxidization level, allowing for more tolerance of mill scale, with fewer root pores. Metalloy 76 is recommended for single-pass and multi-pass welding in flat and horizontal positions with 75%-95% Argon/CO<sub>2</sub>. The wetting action is better tan solid wire, minimizing cold lap on heavier sections of steel.

Applications: Ship building, railcar, general fabrication

*Features and benefits:* Higher deoxidizer levels for improved performance on mill scaled plate, better wetting action than solid wire minimizes cold lap, superb operator appeal, good choice to use for short-circuit or pulse applications. *Shielding gas:* 75%-90% Argon/ Balance CO<sub>2</sub>, 35-50 cfh

Available Diameters: .035", .045", .052", 1/16" and 5/64 diameters









## **Consumables-Stick Electrode**

Steel-Carbon & Low Alloy

Electrode Name	AWS Classification	Recommended Polarity	General Description
Fleetweld® 35	E6011	AC DC±	Operators consistently give this electrode high marks. This quality Lincoln product is a proven performer for sheet metal welding applications and AC pipe welding. Fleetweld 35 is a great electrode to use on jobs where the steel isn't clean.
Murex 6011C	E6011	AC DC±	Murex 6011C features a smooth arc that wets and spreads readily with minimum spatter. Excellent for galvanized steel and for rusty or oily steel in maintenance and repair work Delivers a minimum 60,000 psi (410 MPa) tensile strength.
Fleetweld 22	E6022	DC+ AC	Developed specifically for floor decking and other applica- tions where burn through spot welding on sheet metal is re- quired. Fleetweld 22 is great for galvanized or plated sheet steel, as well as steel that is painted or dirty.

Fast-Fill, High Deposition, Mild Steel Stick Electrode

Jetweld® 1	E7024-1	AC DC±	When the project involves large welds, you can't pick a more user-friendly electrode! Operators appreciate Jetweld 1's smooth bead and high deposition rates. A great general purpose electrode for single or multi-pass applications.
Jetweld 3	E7024	AC DC±	Jetweld 3's high deposition rates, and smooth bead make it a great choice for welding on mild steel. It is especially effective for multi-pass welds.

Fill-Freeze, High Speed, Mild Steel Stick Electrode

Fleetweld 37	E6013	AC DC±	A terrific all-position electrode for low amperage welding on sheet metal-especially in applications where appearance is important. Fleetweld 37 is designed for excellent perform- ance with smaller AC welders with low open-circuit volt- ages. It's an excellent choice for jobs involving irregular or short welds that require a change in position.
Fleetweld 47	E7014	AC DC±	Fleetweld 47 features high deposition rates for fast perform- ance. Operators love this easy-to-use, all-position electrode! Choose Fleetweld 47 for sheet metal lap joints and fillet welds, general purpose plate welding and maintenance jobs.





#### **Consumables– Stick Electrode– cont.**

Fill Freeze, Out-Of–Position Pipe Welding, Mild Steel & Low Alloy Steel Stick Electrodes

Electrode Name	AWS Classification	Recommended Polarity	General Description
Fleetweld® 5P	E6010	DC+	Fleetweld 5P is a great choice for welding on dirty, rusty, greasy or painted steel-especially in vertical or overhead applications.
Fleetweld 5P+	E6010	DC+	Lincoln's 5P+ is ideal for steel that's less than clean. It's a first choice for pipe welding, and vertical-up and overhead plate welding. This electrode is a long-time favorite among operators who handle cross-country and in-plant pipe welding.
Shield-Arc HYP+	E7010-P1	DC+	Tendency for "fingernailing" and electrode sticking have been virtu- ally eliminated! Designed for all passes of APO 5LX-52 through X- 65 high strength pipe. Provides the welder with a clean, visible weld puddle and superior puddle control. A true E7010-P1 electrode.

# MIG WIRES

Mild Steel Wire

Electrode Name	AWS Classification	General Description
SuperArc® L50	ER70S-3	Lincoln's most popular mig wire, SuperArc L-50, premium copper coated wire, is an excellent choice for 70,000 psi (482 MPa) tensile strength, carbon steel base materials. superArc L-50 had moderate levels of silicon and manganese for deoxidation and cleaning action. Designed for use on clean, oil-free, and rust-free base material. Superarc L-50 also has an excellent reputation for feedability and trouble Sup free performance. Shielding gases include argon/carbon dioxide blends, argon/oxygen blends, straight carbon dioxide.
SuperArc L-56	ER70S-6	Lincoln's premium copper coated MIG wire, SuperArc L-56 is an excellent choice for welding on metals with a medium to high presence of millscale. For best performance use on clean, oil-free, and rust-free base material. Best weld appearance and toe wetting when compared to ER70S-3 and ER70S-4 classifications. SuperArc L-56 has high silicon and manganese deoxidizer levels. Superior feedability and excellent arc characteristics are trademarks of SuperArc L-56. shielding gases include argon/carbon dioxide blends, argon/oxygen blends, straight carbon dioxide.
Murematic S3	ER70S-3	The best value in the industry for general purpose carbon steel welding. Murematic S3 copper coated wire is an excellent choice for a broad spectrum of single and multiple pass welding applications. It is a low carbon wire with moderate levels of manganese and silicon that has an excellent record for feedability and trouble free performance. Recommended for welding on base material that is clean or has light surface contaminants such as rust or mill scale.
Murematic S6	Er708-6	Murex's copper coated, mild steel MIG wire electrode, Murematic S6 is an excellent choice for welding on metals with a medium to high presence of surface contaminants such as rust or mill scale. It is a low carbon, high manganese, and very high silicon wire that exhibits very good puddle fluidity, bead profile and spatter control.





#### UltraCore Gas Shielded Flux Cored Wires

Electrode Name	AWS Classification	Recommended Shielding Gas	General Description
UltraCore 71A75 Dual	E71T-1M H8 E71T-1M H8 E71T-9 H8 E71T-9M H8	75-80% argon with a balance of CO2 or 100% Co2	UltraCore 71A75 Dual is a general purpose wire that gives you the flexibility to use with either straight CO2 or 75% Argon/25% CO2 gas. It delivers a stable arc, low spatter, and a smooth bead appearance for general fabrication applications. Features ProTech ™ foil bag packaging system to protect wire from atmospheric moisture while in shipping or storage.
UltraCore 71	E71T-1 H8 E71T-9 H8	100% CO2	For those who prefer the economy of welding with straight CO2 for structural fabrication, railcar, shipbuilding and barge applica- tions. UltraCore 71C is a great choice that delivers superior arc characteristics for single and multiple pass welding. It's Lin- coln's best running E71T-1 for CO2 applications, and it delivers great arc stability and fast freezing slag for easy out-of-position welding, even with 1/16" diameter wire. Manufactured and packaged using ProTech <sup>™</sup> foil bag packaging to protect wire from harmful moisture contamination for consistent quality reel after reel.

#### **Outershield® Gas-Shielded Flux-Cored Wire**

Outershield® 70	E70T-1	100% CO2	Optimum performance on dirty plate! Designed for superior performance on materials with high levels of rust, oil, or mill scale. Outershield 70 is excellent for flat and horizontal groove and fillet welds.
Outershield 71M	E71T-1 E71T-9	100% CO2	Great feedability sets this electrode apart. Good for structural steel and railcar applications.

#### Innershield® Self-Shielded Flux-Cored Wires

General Purpose Welding-All Position

Electrode Name	AWS Classification	General Desciption
Innershield NR-211-MP	E71T-11	One of Lincoln's most popular all-purpose Innershield wires. Versatile wire suitable for all-position welding of light gauge steel or thin plate up to $\frac{1}{2}$ " (12.7mm). Low spatter and excellent weld appearance.
Innershield NR-212	E71TG-G	A good choice for general purpose, all-position welding. Produces smooth welds with excellent appearance. Designed for single and multiple pass semi-automatic and automatic welding of mild steel. Sheet metal, plate and coated steel up to <sup>3</sup> / <sub>4</sub> " (19.0 mm). Low spatter level. Handles poor fit-up well.

General Purpose Welding-High Deposition

Innershield NR-311	E70T-7	Very high deposition rates and fast travel speeds. Welds thicker mild steels and some low alloy steels. Good bead shape and easy slag removal.
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ROBERTS	CAMEL GRINDING WHEELS
Resin Fil	bre Discs
	<ul> <li>Aluminum Oxide</li> <li>Premium quality AO disc designed for long life, high stock removal and cool cutting action on metal and welds.</li> <li>Sharp, heat-treated and blue fired AO grain electrostatically coated to a heavy duty vulcanized fibre backing with heat resistant phenolic resins. Fast, cool cutting performance.</li> <li>Zirconia</li> <li>High concentration of Zirconia and heat-treated Aluminum Oxide grain provides twice the cutting action of premium AO discs and is extremely heat resistant.</li> <li>The special fracturing characteristics of the Zirconia grain provide a consistent action throughout the disc's life.</li> <li>High performance on blending welds, stainless steel, inconel, titanium and tool steel.</li> </ul>
	• 50- and 100-pack spindles available for both AO & Zirk resin fibre discs.

Size	0-11	Max. RPM	CGW UPC Item Numbers				
Size	Grit		16 Grit*	36 Grit*	50 Grit*	60 Grit*	80 Grit*
4 <sup>1</sup> / <sub>2</sub> x <sup>7</sup> / <sub>8</sub>	AO	13,300		CGW48012	CGW48014		CGW48016
5 x <sup>7</sup> / <sub>8</sub>	AO	12,200	CGW48020	CGW48022	CGW48024		CGW48026
7 x <sup>7</sup> / <sub>8</sub>	AO Depressed Center	8,600		CGW48032	CGW48034		CGW48036
4 <sup>1</sup> / <sub>2</sub> x <sup>7</sup> / <sub>8</sub>	Zirk	13,300		CGW48102	CGW48104	CGW48105	CGW48106
5 x <sup>7</sup> / <sub>8</sub>	Zirk	12,200		CGW48112	CGW48114		CGW48116
7 x <sup>7</sup> / <sub>8</sub>	Zirk Depressed Center	8,600		CGW48122	CGW48124		CGW48126

\* Other 16, 24, 60, 100 and 120 grits available upon request. Silicon carbide and ceramic resin fibre discs available upon request.



# Flap Wheels

#### Aluminum Oxide, Coated - 1/4" Shank

- Shank mounted flap wheels featuring quality aluminum oxide coated abrasive material. The flaps, arranged like a fan around the shaft of the tool, provide for consistent cutting action, maximum performance and long life.
- CGW flap wheels can be used on all ferrous and nonferrous materials, stainless steel, iron, brass, aluminum, plastic, fiberglass, wood and glass. Excellent for working in small, difficult to reach places.
- CGW flap wheels have more flaps compared to leading flap wheel manufacturers.

Size Grit	0-::+	Max. RPM	CGW UPC Item Numbers			
	Grit		40 Grit*	60 Grit*	80 Grit*	120 Grit*
$^{3}/_{4} \times ^{3}/_{4} \times ^{1}/_{4}$	AO	30,000		CGW37098	CGW37099	
1 x 1 x <sup>1</sup> / <sub>4</sub>	AO	30,000	CGW39907	CGW39908	CGW39909	
1 <sup>1</sup> / <sub>2</sub> x 1 x <sup>1</sup> / <sub>4</sub>	AO	25,000		CGW39921	CGW39922	
2 x 1 x <sup>1</sup> / <sub>4</sub>	AO	25,000		CGW39932	CGW39933	CGW39934
3 x 1 x <sup>1</sup> / <sub>4</sub>	AO	20,000			CGW39949	CGW39950

\* Other 40 and 120 grits available upon request. Zirconia flap wheels available upon request. ROBERTS



#### **Flap Discs**



- Fastest grain removal in the marketplace for carbon based steels (26% more than the competition) and second best after CGW Z-Stainless discs on stainless steels, while offering excellent life.
- Recommended for aggressive use and heavy duty applications.
- Active grinding agent provides cool cutting with light pressure.
- Premium Zirconia Alumina grain with a poly/cotton heat treated backing. The poly/cotton combination provides low stretch and strength for the high Zirconia concentration that Z3 contains.

#### Premium Z-Stainless - USA Made

- Quickest stainless steel material removal rate on the market – a 56% advantage over competitor's grains. Plus good carbon based steel material removal for versatile working.
- Premium blend of Zirconia and Aluminum Oxide grains with a heat treated polyester backing and active grinding aid. Polyester backing is tough and has minimal stretch.

				T27 Regular			T29 Regular
				T27 XL			T29 XL
CGW UPC item Numbers							
Size	Grit	Spec.	Max. RPM	40 Grit*	60 Grit*	80 Grit*	120 Grit*
4 <sup>1</sup> / <sub>2</sub> x <sup>7</sup> / <sub>8</sub>	Z3	T27 Regular	13,300	CGW42302	CGW42304	CGW42305	CGW42306
4 <sup>1</sup> / <sub>2</sub> x <sup>5</sup> / <sub>8</sub> -11	Z3	T27 Regular	13,300	CGW42312	CGW42314	CGW42315	CGW42316
4 <sup>1</sup> / <sub>2</sub> x <sup>7</sup> / <sub>8</sub>	Z3	T27 XL	13,300	CGW42342	CGW42344	CGW42345	CGW42346
4 <sup>1</sup> / <sub>2</sub> x <sup>5</sup> / <sub>8</sub> -11	Z3	T27 XL	13,300	CGW42352			
4 <sup>1</sup> / <sub>2</sub> x <sup>7</sup> / <sub>8</sub>	Z3	T29 Regular	13,300	CGW42322	CGW42324	CGW42325	CGW42326
4 <sup>1</sup> / <sub>2</sub> x <sup>7</sup> / <sub>8</sub>	Z3	T29 XL	13,300	CGW42362	CGW42364	CGW42365	CGW42366
7 x <sup>7</sup> / <sub>8</sub>	Z3	T29 Regular	8,600	CGW42732	CGW42734	CGW42735	CGW42736
4 <sup>1</sup> / <sub>2</sub> x <sup>7</sup> / <sub>8</sub>	Z-Stainless	T27 Regular	13,300	CGW31012	CGW31014	CGW31015	
4 <sup>1</sup> / <sub>2</sub> x <sup>7</sup> / <sub>8</sub>	Z-Stainless	T27 XL	13,300	CGW31092	CGW31094	CGW31095	
4 <sup>1</sup> / <sub>2</sub> x <sup>7</sup> / <sub>8</sub>	Z-Stainless	T29 XL	13,300			CGW31135	

\* 24 and 36 grits available.

ROBERTS	1	$\bigcap$
	OXYGEN	



# EZ Strip Wheels



#### EZ Strip Wheels

- Non woven wheels for cleaning welds and fast removal of rust, scaling, oxidation, paints, sealants, and other clogging materials.
- EZ strip wheels can be used on stainless steel, steel, aluminum, titanium, non-ferrous metals, fibre glass, stone and wood.
- Red EZ strip wheels are more rigid for faster working on angled and irregular surfaces.
- Black EZ strip wheels clean and can provide a satin finish.

Size	Max. RPM	CGW UPC Item Numbers*
4 <sup>1</sup> / <sub>2</sub> x <sup>7</sup> / <sub>8</sub>	11,000	CGW59204
4 <sup>1</sup> / <sub>2</sub> x <sup>5</sup> / <sub>8</sub> -11	11,000	CGW59205
7 x <sup>7</sup> / <sub>8</sub>	7,000	CGW59206

\* Black EZ Strip Wheels available upon request.

# Non-Woven Hand Pads



#### Premium Non-Woven Hand Pages - USA Made

- Strong, yet flexible premium pad construction for surface preparation.
- Maroon pads for removing rust remvoval, cleaning and surface preparation.
- Grey pads for fine finishing and surface preparation.
- Green pads for heavy duty cleaning.
- White pads are constructed from a non-abrasive material for light duty cleaning.
- Tan pads for rust removal and coarse finishes.

Size	Spec.	CGW UPC Item Numbers*
6 x 9	Maroon - All Purpose	CGW36287
6 x 9	Grey - Ultra Fine	CGW36283
6 x 9	Tan - Heavy Duty	CGW36286

\* Green and white non-woven hand pads available upon request.





# Type 27 - Depressed Center Wheels - 1/4" Grinding



- Excellent ratio of stock removal/wheel loss.
- Economical choice for metal and low-grade stainless.
- A24R: CGW's #1 selling 1/4" Depressed Center Grinding Wheel.
- Aluminum Oxide grain with R-grade bond for longer life and excellent stock removal.

#### Fast Cut

Size*	Grit	Max. RPM	Part #s	
$4^{1}/_{2} x^{1}/_{4} x^{7}/_{8}$	A24-N-BF	13,300	CGW35622	
4 <sup>1</sup> / <sub>2</sub> x <sup>1</sup> / <sub>4</sub> x <sup>5</sup> / <sub>8</sub> -11	A24-N-BF	13,300	CGW35623	
$7 x {}^{1}/_{4} x {}^{7}/_{8}$	A24-N-BF	8,600	CGW35642	
7 x <sup>1</sup> / <sub>4</sub> x <sup>5</sup> / <sub>8</sub> -11	A24-N-BF	8,600	CGW35643	

Size*	Grit	Max. RPM	Part #s	
$4^{1}/_{2} x^{1}/_{4} x^{7}/_{8}$	A24-R-BF	13,300	CGW35620	
$4^{1}/_{2} \ge 1/_{4} \ge 5/_{8}$ -11	A24-R-BF	13,300	CGW35621	
6 x <sup>1</sup> / <sub>4</sub> x <sup>5</sup> / <sub>8</sub> -11	A24-R-BF	10,200	CGW35633	
$7 x {}^{1}/_{4} x {}^{7}/_{8}$	7 x <sup>1</sup> / <sub>4</sub> x <sup>7</sup> / <sub>8</sub> A24-R-BF		CGW35640	
7 x <sup>1</sup> / <sub>4</sub> x <sup>5</sup> / <sub>8</sub> -11 A24-R-BF		8,600	CGW35641	

 $\ast$  5", 6" and 9" diameters available upon request.

### *Type 1 & Type 27 - Super Quickie and Quickie Cut Cut-Off Wheels*



#### Type 1 - BFlex

Size	Grit	Max. RPM	Part #s		
4 <sup>1</sup> / <sub>2</sub> x .035 x <sup>7</sup> / <sub>8</sub>	A60-TB-Flex	13,300	CGW45010		
5 x .040 x <sup>7</sup> / <sub>8</sub>	A60-TB-Flex	12,250	CGW45011		
6 x .040 x <sup>7</sup> / <sub>8</sub>	A60-TB-Flex	10,200	CGW45012		
Type 1 - 045 A36T					

#### Туре 1 - .045 АЗ6Т

Size	Grit	Max. RPM	Part #s	
4 <sup>1</sup> / <sub>2</sub> x .045 x <sup>7</sup> / <sub>8</sub>	A36-T-BF	13,300	CGW35514	
5 x .045 x <sup>7</sup> / <sub>8</sub>	5 x .045 x <sup>7</sup> / <sub>8</sub> A36-T-BF		CGW35516	
6 x .045 x <sup>7</sup> / <sub>8</sub>	A36-T-BF	10,200	CGW35517	

#### Type 1 - Super Quickie Cut, Contaminate Free

Size	Grit	Max. RPM	Part #s
$4^{1}/_{2} \ge 0.035 \ge 7/_{8}$	A60-T-BF	15,300	CGW45041
$4^{1}/_{2}$ x .045 x $^{7}/_{8}$	A60-T-BF	15,300	CGW45042
5 x .045 x <sup>7</sup> / <sub>8</sub>	A60-T-BF	12,250	CGW45104
6 x .045 x <sup>7</sup> / <sub>8</sub>	A60-T-BF	10,200	CGW45080

#### **BFlex and A60T**

- For Metal, Steel and Stainless Steel.
- Flexible wheel design for fast cutting and easy work penetration

#### .045 and A36T

- For Metal, Steel and Stainless Steel.
- Thicker (.045), rigid wheel design for fast cutting and longer life.
   ZA
- Excellent on Steel/Stainless
- Zirconia grain allows for faster cutting and longer life.

#### Super Quickie Cut – Contaminate Free

- High performance reinforced extra-thin wheels.
- Iron, Sulfur, and Chlorine ≤ 0.1% Stainless Steel won't rust.

#### Type 27 - ZA

Size Grit		Max. RPM	Part #s	
4 <sup>1</sup> / <sub>2</sub> x .045 x <sup>7</sup> / <sub>8</sub>	ZA60-S-BF	13,300	CGW45002	
6 x .045 x <sup>5</sup> / <sub>8</sub>	ZA60-S-BF	10,200	CGW45007	

#### Type 27 - Super Quickie Cut

	Size         Grit           4 <sup>1</sup> / <sub>2</sub> x .045 x <sup>7</sup> / <sub>8</sub> A60-T-BF		Max. RPM	Part #s	
			13,300	CGW45099	



\* Other sizes available upon request.





# FIBER DISCS

#### PFERD supplies an extensive line of fiber discs in a variety of grit sizes, abrasive grain and dimensions.

#### Advantages

- Long tool life •
- Uniform surface finish
- Very High stock removal rate
- High Flexibility •
- Excellent grit adhesion

#### **Safety Recommendations**

Wear protective goggles!

Use ear protection!

Use with backing pad!

Not approved for wet grinding!

# Fiber discs are used with backing

**Recommendation for Use** 

pads on standard commercial angle grinders.

#### **Ordering Note**

Please order backing pad separately.

#### **Application Examples**

- Weld Dressing
- Deburring of steel components
- Coarse grinding
- Fine grinding of stainless steel
- Removal of rolling and casting skin



**Aluminum Oxide A Fiber Discs** 

For general-purpose grinding, from coarse to fine, in diverse applications (industry, trades, DIY)

#### Available with standard arbor hole

4 x 5/8" available in 24, 36, 50, 60, 80 grit 4 1/2 x 7/8" available in 16, 24, 36, 50, 60, 80, 100, 120 grit 5 x 5/8-11 available in 16, 24, 36, 50, 60, 80, 100 5 x 7/8" available in 16, 24, 36, 50, 60, 80, 100, 120 grit 7 x 7/8" 9 x 7/8" available in 24, 36, 50, 60, 80, 100 grit

#### Available with 5/8"-11 quick change hub

4 1/2 x 5/8-11 available in 16, 24, 36, 50, 60, 80, 100 available in 16, 24, 36, 50, 60, 80, 100, 120 grit 7 x 5/8-11 available in 24, 36, 50, 60, 80, 100, 120

PFERD Specification Number: FS A COOL (Standard) QC FS A-COOL (Quick Change)





# REINFORCED GRINDING WHEELS

**Steel/Cast Iron/ Stainless Steel (INOX) Soft Type-Hardness Grade L** General purpose grinding wheel for use on all metals. Smooth grinding action and fast removal rates with minimal contact pressure. **Abrasive: Aluminum Oxide:** Manufactured without addition of ferrous, sul-

phurous or chlorinated fillers. **Work Piece Materials**: Steel, cast iron, stainless steel

Application: Surface grinding, edge grinding

Available in 4,  $4 \frac{1}{2}$ , 5, 6, 7, 9 inch diameter,  $\frac{1}{3}$ " thick.. Unthreaded arbor holes have either  $\frac{5}{8}$  or  $\frac{7}{8}$  bore. Threaded arbor holes are  $\frac{5}{8-11}$ ".

PFERD Specification Number A24L PSF



Abrasive: Special Aluminum Oxide: Manufactured without addition of ferrous sulphurous or chlorinated fillers.

Work Piece Materials: Stainless Steel

Application: Weld seam finishing, surface grinding

**Recommendation for Use:** Provides optimum grinding results on high powered angle grinders.

Available in 4, 4 1/2, 5, 6, 7, and 8 inch diameter. All are available in 1/4 thickness with the 4 1/2 inch wheel also available in 1/8 thickness. Unthreaded arbor bore holes are 7/8 inch with the exception of the 4 inch wheel which has either a 3/8 or 5/8 inch bore hole available. Threaded arbor holes are 5/8-11.

#### **PFERD** Specification Number A 30 N SG-INOX

Aluminum Non-ferrous Metals soft Type-Hardness Grade N-Alu Non-loading grinding wheels for use on aluminum and all soft, greasy materials susceptible to loading problems. Advanced formulation does not leave residue on the work piece Surface can be welded immediately following grinding operation. No secondary surface cleaning operation is necessary.

**Abrasive:** Special Aluminum Oxide– Contains no fillers that might leave undesirable residue on the work piece. The ground surface can be welded right away, without any further treatment.

Work Piece Materials; Soft, tough and hard aluminum, non-ferrous metals. Application: Weld dressing, surface grinding.

**Recommendation for Use:** Achieves outstanding stock removal rates even at low contact pressure.

Available in 4, 4 1/2, 5, 6, and 9 inch diameter. All are 1/4" thick. The 4 inch wheel is available with an unthreaded 5/8" arbor hole while all other diameters have a 7/8" unthreaded arbor hole or a 5/8"-11 threaded arbor hole.



PFERD Specification Number A 24 N SG-Alu



-ELASTIC





# CUT OFF WHEELS-DEPRESSED CENTER

**Steel- Very Hard Type- Hardness Grade T** Extremely resistant high performance tool providing unsurpassed cutting performance and outstanding tool life. **Abrasive:** Aluminum oxide **Work Piece Materials:** Steel **Application:** Cutting of sheet metal, sections, and solid material

Available in 4 1/2, 5, 7, and 9 inch diameter. All are available with either 7/8" unthreaded arbor hole, or a 5/8"-11 threaded arbor hole, 3/32" thickness.

PFERD Specification Number A 24/30 SGP

**Stainless Steel (INOX) Hard Type– Hardness Grade S-INOX** Extremely resistant high-performance tool for reduced build-up of heat during cutting operation. **Abrasive: Aluminum Oxide INOX- Rated:** Manufactured without addition of ferrous, sulphurous or chlorinated fillers.

**Work Piece Materials:** Stainless steel (INOX) castings **Application**: Cutting of sheet metal, sections, and solid material



Available in 4 1/2, 5, 7, and 9 inch diameter. All have 7/8" unthreaded arbor hole or 5/8"-11 threaded arbor hole, 3/32" thickness.

PFERD Specification Number 24/30 T SGP

DIE GRINDER WHEELS/THIN CUT-OFF WHEELS

PFERD thin cut-off wheels cut faster than conventional wheels, leaving a cleaner cut, with minimal burr. Thin cut-off wheels are ideally suited for thin gauge sheet stock, thin walled tubing and small diameter cross sections. Material should always be cut at a right angle to the work piece. Larger work pieces require thicker PFERD cut-off wheels for improved lateral stability.

Steel– Soft Type– Hardness Grade P General purpose tool for use in hand-held cut-off work. Ideal for working in hard-to-reach areas or close quarters.
Abrasive: Aluminum Oxide
Work Piece Materials: Steel
Application: Cutting of sheet metal, sections, and solid material
Recommendation for Use: Thin cut-off wheels provide fast and convenient cut-ting with minimized burr formation. Fully reinforced for use in hand held cut-off work. Ideal for working I hard-to-reach areas or close quarters.
Ordering Note: Mandrels for die grinders wheels are sold separately.

Available in a large assortment of diameters, thicknesses, bores and grits. Please call Robert's Oxygen Company for more information.



**PFERD Specification Number 46/60 P PSF** 





#### Type 27 Depressed Center Grinding Wheels (General Purpose)



#### A24N-Fast Grinding

- Aluminum oxide grain
- Soft bond for fast stock removal
- METAL-Ferrous Metals (iron, steel, welds, etc.)
- STAINLESS-Low grade stainless steel

#### A24R-Long Life

- Aluminum oxide grain
- Saits most popular wheel
- For general purpose grinding
- Longer life for fewer wheel changes
- METAL-Ferrous metals (iron, steel welds, etc.)

Size		Max Size RPM		Grades Available Part #s	
Diameter	Width	Bore		A24N	A24R
4	1/4	5/8	13,500	20015	
4 1/2	3/16	7/8	13,300	20050	
4 1/2	1/4	7/8	13,300	20060	20063
4 1/2	1/4	5/8-11	13,300	20160	
5	1/4	7/8	12,200	20070	
6	1/4	7/8	10,200		20079
7	1/4	5/8-11	8,500	20085	20086
9	1/4	5/8-11	6,600	20095	

• Virgin aluminum oxide grain assures consistent high stock removal for tough applications

- All sizes are made with uniform grain throughout, no filler grain used in the backing.
- All wheels internally reinforced with the highest quality fiberglass for maximum safety.
- Super-Lock <sup>TM</sup> Hub on all 5/8-11 threaded wheels is the safest, vibration-free design.

ROBERTS



#### Type 27 Saitech High Performance Cutting Wheels (Stainless steel)



- Saitech .045
- So unique it has a patent
  - Thin .045 width
- Wheel can be mounted to angle grinders with standard Type 27 flanges.
- Fast cutting with long life
- STAINLESS– Stainless Steel, high tensile alloys
- METAL– Ferrous metals (iron, steel, welds, etc.)

Size		Max RPM	Part Number	
Diameter	Width	Bore	Bore Saitech .04	
4 1/2	.045	7/8	13,300	22072
6	.045	7/8	10,200	22082
7	.045	7/8	8,500	22088



Type 27

Flexible Grinding/Blending Wheels/ Challenger II

- Aluminum oxide grain
- Open pattern on wheel for cool grinding and blending
- Safe for use in the nuclear industry

• METAL-Steel, iron, aluminum, brass, bronze STAINLESS– Stainless steel CONCRETE/ WOOD- Also for use on plastic, fiberglass, masonry

Size		Max. RPM	Part # Challenger II
Diameter	Bore		36 Grit
4 1/2	7/8	13,280	27500
7	7/8	8,600	27511



UNITED ABRASIVES, INC.



Type 1 Thin High Speed General Purpose Cut-off Wheels



A36T– Fast Cutting

- Aluminum oxide grain
- Hard bond for aggressive cutting on rough applications
- METAL– Ferrous metals (iron, steel, welds, etc.)

A60S

- Thin 045 width
- Use with reusable 5/8-11 adaptor to fit angle grinders.
- METAL-Ferrous and/or non-ferrous metals (iron, steel, welds, etc.)

A60T-Burr Free

- Hard bond for smooth cutting.
- For use in nuclear, aerospace, automotive, foundry industries and plant maintenance.
- METAL- Ferrous metals (iron, steel, welds, etc.)
- STAINLESS– High tensile metals

Size			Max RPM		e	
Diameter	Width	Bore	] [	A36T	A60S	A60T
3	1/16	1/4	25,000	23042		
3	1/16	3/8	25,000	23040		23041
4	1/16	3/8	19,000	23065		
4	1/16	5/8	19,000	23061		
4	.035	3/8	19,000			23070
6	.045	7/8	10,200		23106	



Type 1 Chop Saw Wheels



#### Iron Worker<sup>TM</sup>

- Aluminum oxide grain
- Fast cutting
- Excellent for use on angle iron, channel iron, heavy rebar, and other ferrous metals.
- METAL-Structural metal applications

Size			Max RPM	Part #s	
Diameter	Width	Bore			
12	3/32	1	5,100	24031	
14	3/32	1	4,400	24051	



#### A24R-Fast Cutting

- Aluminum oxide grain
- General purpose, long life
- METAL-Ferrous metals (Ferrous metals (iron, steel, angle iron, etc.)

	Size		Max	Part #
Diameter	Width	Bore	RPM	
16	5/32	1	3,800	24070



# **GRINDING WHEELS**

#### ALLSTEEL<sup>TM</sup> (Type 27)

ALLSTEEL grinding wheels are designed to deliver top performance when working on either steel or stainless steel. They incorporate the latest developments in grain and bonding technology to lower your cost of grinding.

- Exceptional performance in grinding down welds and preparing edges.
- New grain formulation for fast removal rates
- Excellent wheel life to get more work done per wheel
- Fastest cutting wheel in its class
- Cool and free cutting
- Outstanding life in both steel and stainless steel
- Resists bending and twisting for extra safety.



Available in 4 1/2, 5, 6, 7 and 9 inch diameter. 4 1/2", 5", 7", and 9" wheels are available with a 7/8" or 5/8"-11 arbor. 6" wheels have a 7/8" arbor. Wheels are available in 1/4" or 1/8" thickness.



Aluminum-High Performance Grinding and Cutting of Soft Metals (Type 27)– These wheels meet all requirements for grinding and cutting of aluminum and other non-ferrous metals.

- No clogging in any type of aluminum
- Fast stock removal and long wheel life
- Formulated for cutting but may also be used for intermittent light grinding.
- Fast and free cutting.

Available in 4 1/2, 5, 6, 7, and 9. 4 1/2", 7" and 9" wheels are available with a 7/8" or 5/8"-11 arbor. 6" wheel has a 7/8" arbor. All are 1/4" thick. Also available are 1/8" thick wheels in the same diame-

ters. 4 1/2, 5, and 6" diameters are available with a 7/8" arbor. 7" and 9" wheels have either a 7/8" or 5/8"-11 arbor.

# **CUT-OFF WHEELS**

#### ZIP<sup>TM</sup>- High Performance Cutting and Grinding with Straight Shaft and Die Grinders

ZIP wheels are formulated for high performance cutting, notching and grinding. They are made form highly refined ingredients which will not contaminate stainless steel.

- General purpose cutting and grinding of all types of steel and stainless steel
- Fast, cool and free cutting allowing the operator to work with minimal pressure for best control
- Excellent wheel life
- Exclusive metal hub provides greater safety and straighter cuts





## **CUT-OFF WHEELS**

ZIP<sup>TM</sup>- High Performance Cutting and Grinding with Straight Shaft and Die Grinders (continued)



Available in 2, 3 and 4 inch diameter in a large variety of thicknesses , grit and arbor sizes. Please call Robert's Oxygen Co., Inc. for more information on sizes and availability.

#### ZIP <sup>™</sup> Wheels (Type 1) High Performance Cutting with Angle Grinders and Circular Saws



- Extra fast cutting in steel, stainless steel, aluminum and other non-ferrous metals.
- Fastest cutting wheel in its class with longer life
- Operator's choice- free cutting with less binding for burr free finishes.

Used by metal fabricators, maintenance departments, sheet metal shops, welding shops, mechanical contractors food equipment manufacturers, automotive shops, pulp and paper mills and many others.

Available in 4 1/2, 5, 6, 7, 8 and 9 inch diameter in a large assortment of thicknesses and grits. All have 7/8" arbor with the exception of the 7" and 8" circular saw wheels which have 5/8" arbor.





- Extra thin to cut faster, freer and cooler
- Metal hub cladding for extra strength and added safety
- Excellent for flush cutting in confined spaces
- For applications in steel or stainless steel

Available in 4 1/2, 5, 6, 7, and 9 inch diameter in a variety of thicknesses and grits. All have 7/8" arbor.



# **BLENDING ABRASIVES**

ENDURO-FLEX<sup>TM</sup> The One Step Finishing Solution



#### Steel/Stainless ENDURO-FLEX

Available in:

4 1/2" with 5/8"-11 arbor, 40, 60, 80 or 120 grit 4 1/2" with 7/8" arbor, 40, 60, 80, or 120 grit 5" with 5/8"-11 arbor, 40, 60, 80, or 120 grit 6" with 5/8"-11 arbor, 40, 60, 80, or 120 grit 7" with 7/8" arbor, 40, 60, 80, or 120 grit

#### ENDURO-FLEX also feature:

 ' with 7/8" arbor, 40, 60, 80, or 120 grit
 4 1/2" with 7/8" arbor, 40, 60, 80 or 120 grit

 th 5/8"-11 arbor, 40, 60, 80, or 120 grit
 5" with 5/8"-11 arbor, 40, 60, 80, or 120 grit

Available in:

- 40, 60, 80, or 120 grit 6" with 5/8"-11 arbor, 40, 60, 80, or 120 grit
- " arbor, 40, 60, 80, or 120 grit 7" with 7/8" arbor, 40, 60, 80, or 120 grit

#### • Strong and safe built-in threaded arbor for quick and easy disc changes while ensuring total operator control

- New raised hub that fits all standard angle grinder back flanges
- Patented polymer backing for safe and easy trimming
- Patented shape for faster trimming and vibration-free grinding all the way down to the stub.

### SANDING DISCS

#### COOLCUT TM (steel)

For general purpose sanding, light weld removal, surface cleaning and finishing

**Better Productivity**– New, ultra-sharp and refined zirconium grain stays sharper longer to re-

**Higher Performance**– Special top coat continuously cools and lubricates the disc for smooth,

**Increased Savings– ENDURO-FLEX** flap discs will remove more weds and finish more surfaces in just one step to substantially reduce your grind-

Superior performance on all heat sensitive metals

Stainless/Aluminum ENDURO-FLEX

4 1/2" with 5/8"-11 arbor, 40, 60, 80 or 120 grit

Consistent finish without any discoloration Cool cutting will not load up or glaze

move more material faster.

ing and finishing costs. Iron, sulfur and Chlorine free

vibration-free grinding and sanding

• High removal rate, cool cutting

Available in:

4 1/2" with 7/8" arbor, 24, 36, 40, 50, 60, 80, and 100 grit 5" with 7/8" arbor, 16, 24, 36, 40, 50, 60, 80, 100, and 120 grit 6" with 7/8" arbor, 24, 36, 50, 80, and 100 grit 7" with 7/8" arbor, 16, 24, 36, 50, 60, 80, 100, and 120 grit

Note: Sanding discs require backing pads. The type of pad used will influence the performance of the disc. Choose the right pad for your application. Flat for the widest surface contact, or shaped and air cooled for a narrow sanding path.





# FINISHING ABRASIVES



#### **QUICK-STEP TM Flap Discs**

- For bringing down and blending in light welds, for deburring, breaking edges and rounding corners
- Discs are aggressive, cool cutting and give a consistent uniform finish
- Abrasive flaps are secured onto a flexible backing making them ideal for working on curved surfaces.
- For steel, stainless or aluminum

#### Available in:

4 1/2" in 40, 60, 80 or 120 grit 6" in 40, 60, 80 or 120 grit



#### **BLENDEX<sup>TM</sup> Surface Conditioning Discs**

- For surface cleaning and finishing jobs, removing paint and surface imperfections
- Produce a uniform brushed finish on metal surfaces
- Non-woven construction will conform to the work piece to refine its surface without gouging

Available in 4 1/2, 5, 6, and 7 inch discs. All are available in all grits listed below with the exception of the 5" disc which is available in coarse, medium, and fine only.

Extra Coarse: Delivers the highest removal ratesCoarse (tan): For most heavy duty applicationsMedium (maroon): for cleaning and removing surface imperfectionsFine (blue): for producing a fine scratch patternSuper Fine (grey): Use as a last step before mirror finishing or to produce decorative finishes



#### **DECO<sup>TM</sup>** Surface Finishing Discs

- These discs can be used to produce a decorative finish on all metals, or as a last step before polishing with compounds
- Tough compressed non-woven construction assures long life and a fine consistent and uniform finish
- For use on steel, stainless and aluminum

Available in 4 1/2" discs only, in coarse, medium, fine, very fine, or super fine.



# FINISHING ABRASIVES

#### **QUICK-STEP FELT DISCS**

- Produce highly refined finishes on all types of metal surfaces from stainless steel to brass, aluminum and aircraft alloys.
- Popular applications include upgrading of #4 finishes, polishing to a food • grade finish, repairing minor scratches and blemishes to original mill-buffed mirror finish, etc.
- Use for steel, stainless, or aluminum
- Available in 4 1/2, 6 and 7 inch diameter discs •



#### POLISHING PASTE

Reclosable polishing paste tube with convenient push-through system to protect paste from contaminants. White Polishing Paste- Approx. 600g Grit 1200-1500 Blue Mirror Finishing Paste – Approx. 650g, Grit 2000. Does not contain animal

fat and is suitable for use by food processing industry.



#### **QUICK-STEP Trial Pack**

The answer to all your finishing needs, from weld blending to a mirror #8 finish. Includes:

1 backing pad, 1 flap disc (grit 120), 9 BLENDEX discs (1 extra coarse, 2 coarse, 3 medium, 2 fine, and 1 super fine), 1 felt disc, 1 mini white paste and 1 mini blue paste

Available in 4 1/2" diameter only



#### **QUICK-STEP Backing Pads**

- The foundation of the system has a hook and loop mounting system for quick disc changes.
- Unique centering pin guarantees a centered fit every time for vibration-free performance.

Available in 4, 4 1/2, 5, 6, and 7 inch diameter pads

Note: Quick-Step flap discs and FX cleaning discs, can be used with backing pad one diameter size below for more flexibility, to reach into corners and to use up worn discs.





#### **FX**<sup>TM</sup> Surface Cleaning Discs

- Extra strong non-woven construction for removing heavy paint, gaskets, sealing compounds, rust and scale from all metals.
- Will clean without gouging or damaging the surface
- Can be used on edge to reach into tight corners with reduced diameter backing pads.
- Available in  $4 \frac{1}{2}$  and 6 inch diameter discs.



#### **BLENDEX<sup>TM</sup> Drums**

WALTER

- Produce a wide variety of shadow free finishes
- Will give uniform and consistent finishes over the entire life of the drum
- Use them to polish, burnish, blend, deburr, clean and brighten stainless steel, aluminum, brass, copper and other alloys.
- Drums are 4 1/4" diameter, 2" or 4" wide with a 5/8"-11 arbor. 2" drum grits available: HD, Coarse, Medium, Fine and Superfine. 4" drum grits available: Coarse, Medium, Fine, Super Fine and HG

#### **BLENDEX<sup>TM</sup> Drum Belts**

- Clean, refine and condition large metal surface
- Excellent for creating and restoring decorative finishes

**Coarse:** For tough cleaning, removing rust and small scratches **Medium:** For conditioning and removing surface imperfections **Fine and Super Fine:** For buffing and other fine surface refinements.

#### Available in:

 $3 \frac{1}{2}$  W x 15  $\frac{1}{2}$  L in Coarse, Medium, Fine and Super Fine. 5  $\frac{3}{8}$  (for use with pneumatic drum) in Coarse, Medium, Fine and Super Fine.

#### **BLENDEX TM Strip-Belts**

- Ideal for cleaning or finishing pipes, tubing and railings
- Will produce a new sheen on tarnished pipes
- Special T-lock allows quick and easy access when finishing closed loop work pieces
- Use with belt drive roller
- For use on steel, stainless, or aluminum

Available in 1 3/16"W x 24"L in coarse, Medium, Fine or Super Fine



ROBERTS



#### Model # W7-115 (Order #606204420) 4 1/2 inch Angle Grinder

Features: Switch with lock on capacity, current interruption protection, spindle lock, low profile aluminum dies-cast gear housing, Tool free guard adjustment, 2position side handle, Metabo slip clutch, auto-stop carbon brushes, winding protection grid and suitability for occasional DC use.

Specs: Maximum torque: 19 inch lbs. Maximum wheel diameter: 4 1/2" No-load speed (RPM): 10,000 Amps: 7.0 Rated input watts: 750 Arbor size: 7/8" Spindle thread: 5/8-11 Tool weight: 4.8 lbs Length: 11"



metabo

#### Model # WE-14150 Quick (Order # 601451420) 6 inch Angle Grinder

Features: Tacho constamatic (TC) electronics, Long lasting motor, quick wheel change system, switch with lock on capability, current interruption protection, spindle lock, low profile aluminum die-cast gear housing, tool free guard adjustment, 2 position side handle, electronic winding temperature monitor with LED display, Metabo slip clutch, Auto-stop carbon brushes, winding protection grid, electronic soft start feature, electronic speed stabilization.

Specs: Maximum torque: 31 inch lbs. Maximum wheel diameter: 6" No-load speed (RPM): 9000 Amps: 12.0 Rated input watts: 1400 Arbor size: 7/8" Spindle thread: 5/8-11" Tool weight: 5.6lbs Length: 12" Also available in 220V



Maximum Torque: 44 inch lbs. Maximum Wheel Diameter: 6" No-load speed (RPM): 9700 Amps: 12.0 Rated input watts: 1400 Arbor size: 7/8" Spindle thread: 5/8-11 Tool weight: 8.2lbs Length: 16"

#### Model # W14-150E (Order # 606251420) 6" Angle Grinder

**Features:** Spindle lock, 3 position side handle, 3 position rear handle for cutting/grinding, tool free hand guard adjustment winding protection grid, safety lock to prevent the accidental switching on of the tool, auto-stop carbon brushes, suitable for occasional DC use.



#### Model #W10-125 (Order #601026420) 5 inch Angle Grinder

**Features:** Long lasting motor, quick wheel change system, switch with lock on capability, spindle lock, low profile aluminum die-cast gear housing, tool free guard adjustment, 2-position side handle, Metabo slip clutch, auto-stop carbon brushes, winding protection grid .

#### Specs:

Maximum Torque: 27 inch lbs Maximum Wheel Diameter: 5" No-load speed (RPM): 10,000 Amps: 8.5 Rated input watts: 1010 Arbor Size: 7/8" Spindle thread : 5/8"-11 Tool Weight: 5.5lbs Length: 12"



metabo

#### Model #W23-180 (Order #606410420) 7 inch Angle Grinder

**Features:** Spindle lock, 3 position side handle, 3 position handle for cutting/grinding, tool free hand guard adjustment winding protection grid, safety lock to prevent the accidental switching on of the tool, autostop carbon brushes, suitable for occasional DC use. **Specs:** 

Maximum Torque: 123 inch lbs. Maximum Wheel Diameter: 7" No-load speed (RPM): 8500 Amps: 15.0 Rated input watts: 2300 Arbor size: 7/8" Spindle thread: 5/8"-11 Tool Weight: 13.3 lbs Length: 18"



Arbor size: 7/8" Spindle thread: 5/8"-11 Tool Weight: 5.6lbs Length: 12"

#### Model #W10-150 Quick (Order # 601051420) 6" Angle Grinder

**Features:** Long lasting motor, quick wheel change system, switch with lock on capability, spindle lock, low profile aluminum die-cast gear housing, tool free guard adjustment, 2 position side handle, Metabo slip clutch, auto- stop carbon brushes, and winding protection grid.

#### Specs:

Maximum Torque: 29 inch lbs Maximum Wheel Diameter: 6" No-load speed (RPM): 9000 Amps: 8.5 Rated input watts: 1010





# COUNT ON ROBERTS OXYGEN YOUR AUTHORIZED LENOX® SAW SERVICE CENTER TO...

- Stock a complete range of band saw blades to meet your requirements.
- Weld blades to perfectly fit your machine.
- Deliver welded bands to you precisely when you need them.

# QUICK DELIVERY FROM STOCK ...

Roberts Oxygen your Authorized LENOX® Saw Service Center is ready to deliver welded-to-length band saw blades as you need them. This can reduce your inventory and free up capital for other uses.

# FACTORY CERTIFIED WELDS...

Our Authorized LENOX® Saw Service Center personnel are factory trained to ensure welds consistently measure up to the following standards:

- Perfectly matched teeth
- Finished weld area
- Uniform blade thickness
- Long production life





AUTHORIZED SAW SERVICE CENTER

# ROBERTS OXYGEN

# WELDING ACCESSORIES



#### **Curved Handle Brush** # of rows: 3 x 19 Block size: 13 3/4" x 15/16" 11000 (END Brush Length: 6" • Trim Length: 1 1/8" Part No. BW-103 Part No. BW-190 Shoe Handle Brush Weld Cleaning Brushes # of rows: 4 x 16 • • # of rows: 3 x 7 Block size: 10"x 1 1/16" • Block size: 7 1/2" x 1/2" Brush Length: 5" • Fill material: .006 Stainless Steel • Trim Length: 1 3/16" Trim Length: 1/2" • Part No. BW-9112 Carbon Steel (BW-112) or • Handle: Wood Stainless (BW-9112)

#### Wire Wheel Brushes-Knot Style for Small Angle Grinders

#### BW-840: For cleaning of **BW-750:** For cleaning grooves and bead welds stringer bead welds. Great for fillet weld cleaning 4 inch diameter • Face width: 1/2" 4 inch diameter • Face width: 3/16" Wire size: .014 Wire size: .020" Arbor hole: 5/8"-11 • Arbor Hole: 5/8"-11 Max RPM- 20,000 • Part No. BW-750 Part No. BW-840 Steel (BW-750) or Max RPM: 20,000 • Stainless Steel (BW-9750) Steel (BW-840) or Stainless • Steel (BW-9840) Cup Brushes for Small Angle Grinders Crimped Wire Brush #320 Trim length: 7/8" Greater brushing flexibility • • Wire size: .014 Removes light rust and oxides ٠ Arbor hole: 5/8"-11 Fast brushing action

- 2 3/4" diameter
- Max. RPM: 14,000 .
- Steel only

- Knot Style Wire Brush # 420
- Weld cleaning

Part No. BW-320

- Pipe bevel cleaning
- Cleaning hard to reach areas
- 2 3/4" diameter

- Trim length: 7/8"
- Wire size: .014
- Arbor hole: 5/8-11
- Max RPM 14,000 •
- Steel (BW-420) or . Stainless Steel (BW-9420)







#### Welding Cable

**Flex-A-Prene** Welding Cable features EPDM rubber insulation. Stocked in black , sizes 4, 2, 1, 1/0, 2/0, and 4/0 **Ultra Flex ,** the ultimate in flexible cable is also stocked in size 2, 25ft or shorter lengths.





Tweco	Female	<b>Terminals</b>
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Model Number	Description	Accepts Male Ends
1-AF	45° Angle	1-MPC
2-AF	45° Angle	4-MPC, 2-MPC

# Tweco Cable Connectors

Connectors are equipped with heat and oil resistant covers and are furnished with zinc plated cover and ball-point cable screws.

Model Number	Description	Type of Cable Connection	Cable Capacity
1-MPC-1	Male Half	Single ball-point	4, 2, 1
1-MPC-2	Female Half	Single ball-point	4, 2, 1
2-MPC-1	Male Half	Single ball-point	1/0, 2/0, 3/0
2-MPC-2	Female Hale	Single ball-point	1/0, 2/0, 3/0







#### Fast Orange®

A waterless hand cleaner that really cleans. Fast Orange® removes grease, grime, paint, adhesives and all other soils working hands get into. Features conditioners to prevent hands from cracking and drying out. Fresh smelling natural citrus.

Ο

Available in 7.5fl oz bottle, 1/2 gallon bottle with pump, 1 gallon bottle with pump and 72 count wipes.



#### **Ullman Inspection Mirrors**

- Clear glass mirror for perfect reflection
- All-angle ball joint holds mirror firmly or 360° viewing



- Mirror encased in rugged corrosion resistant brushed stainless steel
- Stainless steel telescoping handle is strong, long & lightweight
- Comfortable textured cushion grip keeps handle secure in wet or oily hands
- Longer, Stronger and Lightweight
- Variety of sizes and models available.



#### Western Hose Repair Kit

Hose repair kit includes crimping tool, nuts, couplers, splicers, nipples and ferrules. Fast, easy concave crimp ensures strong connections.



Convenient plastic case is durable and includes a full color label and description chart.

For 1/4" ID hose, B-Size Fittings only



#### Western Quick Connects

Provide fast, reliable and positive connections and quick disconnections for torches, hoses and regulators. All



models are color-coded for gas service for added safety. Oxy/fuel gas models include integral reverse flow Check Valves. Quick Connects fit all B-size welding equipment.



#### K-Fab Gauge Guards

Protects the gauges on Victor<sup>®</sup> and Harris<sup>®</sup> regulators. Made from high impact ABS Plastic and are color coded red and green. Easily installed: slip on and tighten with one screw. For in-plant or jobsite use. Saves on gauge repair and downtime.



#### Vise Grip Locking Tools

Roberts Oxygen carries a large selection of Vise– Grip straight locking jaw pliers, locking

C-clamps, with regular or swivel pads, locking welding clamps, locking and locking sheet metal tools. Vise-Grip tools feature locking tools with more than twice the life and significantly more strength that other tools on the market. Handcrafted in the U.S.A.







#### Twin Weld Hose 1/4"

Grade T for use with oxygen and most fuel gases including acetylene, hydro-



- gen, propylene, propane, natural gas and MAPP® gas.
- Grade RM available for use with acetylene ONLY
- Standard "B" brass fittings
- Available in 25, 50 and 100ft lengths



#### **Chipping Hammers – Superior Tomahawks**

Part Number	Description
S-20	Cone and Chisel
S-30	Cone and Cross Chisel



Part No. S-20



Constat 11111

Head design offers 50% greater handle support and protection from handle splinter caused by working over an edge. Select Hickory handles are hand fitted and secured in the head by a unique process which virtually eliminates handle

Long Neck Tomahawks

loosening.

Part Number	Description
WH-10	Chisel & Cross Chisel
WH-20	Cone & Chisel
WH-40	Curved Cone & Cross Chisel

*Combination Wrench* features a total of 10 opening from 7/16" to 1 1/8" including a boxed opening for B and MC Acetylene valves and a socket for commercial Acetylene cylinders. 9" long



Part No. W1013

#### Light Duty All Steel Clamps 1200 Series

- Nominal Throat Depth: 5 1/2" •
- Nominal Opening: 8"
- Nominal Rail Size: 1" x 15/32"
- Nominal Clamping Pressure: 1200lbs

#### Multi-Purpose Magnetic Square

- High quality, ferrite and rare earth magnet • is designed for fast, simple set-ups
- Holds work firmly at 45°, 90°, or 135° angle
- **WMS-3 :** 3 3/8"W x 3 3/8"H x 5/8"Thick,
- Average Pull of 55lbs, • Approx. Weight: .70lbs
- WMS-2 Super Square: 3 3/4"W x 4 3/8"H x 3/4" Thick Average Pull of 112lbs. Approx. Weight: 1.5lbd







#### Bessey Heat Treated Steel, Sliding Arm Clamps

- Offer a greater reach to eliminate the need to buy both regular and deep throat clamps
- Tempered Steel Sliding Arm is dropped forge, electrogalvanized
- Rail, fixed jaws and pressure plate heat-formed in one piece from cold drawn profiled steel, optimized for high static stress loading, tempered and electro-galvanized.
- Unique Bessey morpad tilts to 350°. Tempered thrust bolt can be unscrewed for easy maintenance or replacement.
- Heat treated, high carbon acme threaded screw is tempered and quenched for greater loading capacity and longer service life. Spatter resistant.
- High strength electro-galvanized tommy bar handle with ergonomically rounded ends for power-tightening





- **2400 Series Regular Duty Clamps** Seven sizes– from 6" to 60" openings 2660lb nominal clamping pressure
- **4800** Series Heavy Duty Clamps For uses such as clamping 3/4" plate Five sizes-from 12" to 60" openings 4800lbs nominal clamping pressure

#### Drop- Forged C-Clamp

- Dropped forged heat-treated steel frame
- Swivel pad
- Black oxide coated to resist corrosion



JM404

**JM408** 

Part Number	Nominal Opening	Nominal Throat	Nominal Pressure	Screw diameter	Approx. Weight
JM404	4"	2 3/4"	4100 lbs	3/4"	2.75 lbs
JM406	6"	3 5/8"	5400 lbs	3/4"	4.75 lbs
JM408	8"	4 1/2"	5900 lbs	3/4"	8.5 lbs

#### SQ Super Quick Clamps

- Deep throat has greater reach eliminating the need for regular and deep throat C clamps
- Manufactured to Bessey's high quality standards with an economical standard pad

Part Number	Nominal Throat Depth	Nominal Opening	Nominal Rail Size	Nominal Claming Pressure	Weight
SQ-4	4 3/4"	6"	27/32 x 13/32	1330lbs	2.5lbs
SQ-8	4 3/4"	8"	1 3/16" x 9/16"	2660lbs	5.5lbs



# ROBERTS

# WELDING ACCESSORIES



Mag Tool<sup>TM</sup> Multi-Purpose Magnetic Holders

- Designed to work as an extra hand-enables fast and accurate holding of any ferrous object.
  - Mag Tool<sup>TM</sup> will hold both sheet and tube at angles of  $45^{\circ}$ ,  $90^{\circ}$  and  $135^{\circ}$
- Compact design allows use in tight places
- Mag Tool<sup>™</sup> can be used as double-sided holder for welding and assembly work
- Ideal for use as work-holder and positioner in welding, soldering, marking-off, pipe installation, supporting, jigging, assembly, as a separator, multi-units for heavy weldments, lifting etc.
- CAUTION: Do not use with DC current when welding

	M-061 Mag-Tool, Medium	M-063 Mag-Tool, Large
Dimensions	4.7"x 3.4"x 0.56"	6.3" x 4" x 0.63"
Supports up to	48.51bs	90lbs
Direct Lifts (Each Angle)**	18.5lbs	35lbs
Net Weight	12oz	1.65lbs

\*\*In contact with Ferrous Object of Adequate Thickness and Smooth Surface Finish

M-061

**M-063** 



*The SHURLITE #3021* is an economically priced spark lighter. Designed for the welding industry, the #3021 is capable of lighting any flammable gas. The #3011 lighter features a very long lifespan and provides the lower cost per



ignition of any lighter anywhere. This lighter showcases the SHURLITE commitment to quality, and is guaranteed to spark vigorously and reliably. This is the ideal lighter for professional welders. The #3021's flint tip may be easily replaced with one of SHURLITE's Universal Single Flint Renewals. The #3021 features a round file, a large square hood for trapping flammable gases for easy ignition., and a wire frame made from a specialty steel which retains it's springiness over the life of the lighter.

Made in America and tested by a human prior to shipment for guaranteed quality



*The SHURLITE #5021* three flint lighter is the spark lighter that's built to withstand the harshest of conditions. It's the toughest spark lighter made and it's designed for the toughest jobs. The #5021 will easily light any flammable gas. It is manufactured of heavy, high tensile strength steels, plated and galvanized. This lighter is the favorite of the heavy construction and petroleum industries. Like all SHURLITE lighters, the #5021 is guaranteed to spark vigorously and reliably. The #5021's triangular flint holder may be easily rotated for a fresh flint, and when all three flints are finally gone, the flint assembly is easily replaced with a SHURLITE three flint renewal (4 Three Flint Renewal Assemblies are included. The #5021 features a round file and a large hood for trapping flammable gases for easy ignition.

Made in America and tested by a human prior to shipment for guaranteed quality.





#### Wypo Tip Cleaners

•

- Precision manufactured with controlled accurate pressure  $(\pm.001)$  to form the high quality stainless steel
- Uniform ridges wipe and polish the critical orifice wall. The absence of any cutting edges (as found wit drills) ensures a clean, pure orifice.
- Tapered ends allow smooth easy entry without scratching
- Smooth undersized leader pilot guides the cleaner into the tip preventing damage to the tip port
- Tangle free, closed loops

**Standard Tip Cleaner Kit**: Set of 13 tip cleaners, Sizes 6 – 26 + file **King Tip Cleaner Kit**: Set of 13 x-long cleaners, Sizes 6-26 + file

#### Archer DK 100 12 Piece Drill Type Tip Cleaner

Contains one each of the following wire gauge bits:
 52, 54, 56, 58, 60, 62, 64, 66, 68, 70, 72, and 74

Archer Tool Company, Inc.



Standard

King

#### Soapstone and Soapstone Holders

- For the temporary marking of metal surfaces during the fabrication process.
- Made of natural soapstone for superior marking
- Marks will not contaminate welds and are easily removed
- Available in flat, round and square shapes
- Holders available for flat and round soapstone

#### Wrap-A-Round



An inexpensive tool for marking straight lines around pipe, or for use as a straight edge. Made out of flexible gasket material, with good resistance to heat and

	Size	Dimensions Width/Length	Pipe Diameter	Part Number
	EX-SMALL	1.94" x 2'	1"TO 3"	5CWAR15
	MEDIUM	3.88" x 4'	3" TO 6"	5CWAR16
	LARGE	3.88" x 6'	3" TO 10"	5CWAR17
	EX-LARGE	5.0" x 7'	4" TO 12"	5CWAR17B
	EX-LARGE	5.0" x 9.0'	6 TO 16"	5CWAR17A



#### Curv-O-Mark<sup>®</sup> Centering Head (Standard #6) Part #5C6CH

- Aids in the setting of centerlines, establishing angles and marks for butt-ins, locating points inside pipes and tanks, laying out keyways and measuring declivity
   For use on pipe 1/2" diameter and larger
- For use on pipe 1/2" diameter and larger.
  - 4" Y-type head and is fitted with an adjustable dial bubble protractor (DSL) and a manually operated hardened centering pin.

Note: A jumbo size is also available for 1"diameter or larger pipe. Please call Robert's Oxygen Company for more information..

# ROBERTS

# WELDING ACCESSORIES



Weld-Aid Lube-Matic<sup>®</sup> products are engineered to clean and lubricate wire, improve feedability, reduce spatter and increase tip and liner life. Reduces wire drag by 60% and feeds wire more smoothly with poor cast, helix and rust.



**Lube-Matic Liquid**-Helps feed all mild steel, fabricated, and core wires. Great for longer distance feed (over 10')

**Lube-Matic Lube Pads**– Black lube pads are pre-treated with Lube-Matic liquid. Lubrication allows smooth feeding of wires with poor case, helix, rust and long feed liners.



#### **Teflon** Tape

Use to properly seal threaded connections to eliminate leaks. For use on most water, air or gas lines



#### 50mm Lift Front Goggle

- Positive action lift front locks in open or closed position
- Cap vents minimize fogging
- Filter lenses provide excellent impact protection
- Soft frame enhances comfort
- Complies with ANSI Z87.1
- Also available in a stationary front model

#### 2" x 4 1/4" Lift Front Goggle

- Positive action lift front locks in open or closed position
- Filter lenses provide excellent impact protection
- Soft vinyl frame contoured for comfort
- Vented hood minimizes fogging
- Complies with ANSI Z87.1 standard CSA A94.3 certified.
- Also available in a stationary front model





#### Cup Goggle

- Multiple slots around each lens provide maximum ventilation
- Complies with ANSI Z87.1 standard CSA Z94.3 certified

# ROBERTS



#### Ball Paint Marker ® Metal Tip, Plastic Bottle

- Marks with real paint, dries in 5 minutes
- Durable metal ball tip marks on we, oily, smooth and rough surfaces including metal, wood, plastic, glass and any hard surface
- Unbreakable plastic bottle with 1/8" steel ball tip
- Temperature range: -50°F to 150°F
- Available in a variety of colors



#### B Paintstik® Marker-Marks on Any Material or Surface

• Real lead-free paint in stick form; combines long-lasting durability of paint with easeof-use of a crayon.

A-CU Markal

- For use on metal, wood, plastic, concrete, rubber, glass, cardboard, and paper
- Marks on smooth, rough, rusty or dirty surfaces and also marks through oil and water
- Temperature range  $-50^{\circ}$ F to  $150^{\circ}$ F
- Available in a variety of colors



#### **BL** Paintstik® Marker-Bleeds Through Solvent Based Paints

- Marks bleed through solvent or oil-based paints
- For fabricating structural steel or layout work where the marks are required to be seen through the primer coat covering the marks
- To prevent bleeding though the finish coat, seal the marked areas with water-based epoxy paint
- Temperature range –50°F to 150°F

#### Valve Action<sup>®</sup> Paint Markers- Medium Tip

- Marks with real lead-free paint, dries in 3 minutes
- Long-lasting, weather, water and UV resistant with better, brighter coverage compared to ink markers
- Marks on all surfaces including metal, wood, glass, plastic, rubber, cardboard, and paper
- Durable nib permits fine line marking or bold, thick marks visible from long distances
- Replaceable fiber nib assures longer life and complete use of each marker
- Improved "flowmatic" valve releases paint on-demand for smooth, continuous marks
- Sturdy metal barrel features strong crimped barrel design that prevents leakage while withstanding heavy industrial use
- Marking range –50° to 150°F
- Available in a variety of colors
# ROBERTS

### WELDING ACCESSORIES



This all purpose propane flame tool operates off of the pressure of a standard propane tank-no regulator required. Appropriate for a wide variety of all season



maintenance/repair applications at commercial offices, factories, institutions, warehouses, parks, residential properties, farms and parking lots.

- Delivers 500,000 BTU
- No smoke, no fumes
- Burn weeds, repair asphalt, seal tar, peel paint, remove road markings, melt ice, and thaw pipes.
- Durable 10ft neoprene hose
- Accurate brass flow control shut-off valve
- Brass propane tank adaptor
- Spark igniter
- Durable cast iron and steel nozzle
- Welded tube nozzle
- 31" Heavy-Duty Handle
- Meets NFPA 51 specifications
- One year warranty

#### Weldas SWEATSOpad

Weldas innovative sweatband design has made wearing a helmet more comfortable not matter what time of year it



Original & Patented



C WESTERN

Hotspotter

is The SWEATSOpad has been field tested in a variety of industries and is proven to reduce "helmet head", to improve grip, and to provide maximum perspiration absorption. Made of 100% fleecy cotton and flame retardant, this product features an air cushioned inner layer made of thousands of small cells to hold excessive perspiration and a hook & loop fastener to fit all major brands of suspender (hardhats) or non suspender (welding and face shield) type headgears.



#### Rod Guard® Canisters

- Provide great storage and inventory control for all your welding electrodes, rods and filler metals.
- Certified chloride free and features a threaded cap with a long lasting neoprene seal to keep electrodes airtight, preventing them from being contaminated from atmospheric moisture
- Constructed of high impact polyethylene to protect electrodes from damage. Durable to last for years.
- Proudly made in the USA
- Available to accommodate 36" and 14" inch rod



#### WELDING ACCESSORIES

#### Tillman #584 Light Duty Welding Blanket

- 18oz. White Fiberglass, no coating
- Designed for general welding, light sparks and spatter, vertical plane protection



- .03 " thick,
- Available in 6' x 6', 6' x 10' (other sizes, including custom sizes are available. Please call Robert Oxygen for pricing and availability)

Warning: Temperatures and applications are intended as guidelines and not as guarantees of performance. Please be advised that molten metal temperatures exceed 1500°F. Neoprene and silicone coated blankets are not recommended for stress relief and close proximity or direct contact with temperatures of 200° or more may result in smoking and/or burning. It is the user's responsibility to monitor their activity and use of all blankets at all times.



#### Tillman #615 Medium Duty Welding Blanket

- 16oz. ThermoFelt
- Non-flammable, non-melting, non-shrinking, scratch free, for general purpose welding, light sparks, spatter. Smoking and loss of tensile strength will occur when subject to molten metal.
  - 1800°F working temperature
- .15"-.20"
- 3'x3', 6'x6', 6'x8', 1'x 1' plumbers pad or custom sizes are available.

#### Wilson #2600 Medium Duty Welding Blanket

- Made from durable, coated fiberglass fabrics
- Designed to give protection from sparks, spatter and minimal slag generated from fabrication activity.
- Specially coated fabrics will be a long lasting welding aid.
- Available in 6'x6' and 6'x8'

Wilson Industries suggests the use of multiple layers of welding blankets for safety and protection

#### Tillman #583-1068 12oz Duck Canvas One Panel 6' x 8' Screen

Tillman welding screens offer safety, spark containment, durability, portability, temperature, and noise control.

- General purpose material resists flame, water, and mildew
- Meets CPA 1-84

.

- Strong 1", 18 gauge tubular steel frames. Black enamel, rust resistant finish
- Easy assembly, frames slip together quickly, no tools required
- 24" platform legs ensure stability and balance
- 4" bottom clearance for better ventilation
- Unique fastening system secures tubes and prevents slipping and twisting
- Curtains are held by strong, adjustable ties through heavy-duty grommets on 12" centers and hemmed with strong, flame resistant Kevlar®.

Other welding screens are available in a variety of sizes and for various applications. Please call Robert's Oxygen Co. for more information.





TILLMAN

TILLMAN







#### Broad Head Bull Pins

Heat treated for strength

Top diameter: 1 1/16"

Steel Scratch Awl

Black finish for rust resistance.

#### # 3256

- Forged, heat treated bull pin increases efficiency by providing a larger striking surface.
- Head design also reduces chance of pin slipping from the hand when aligning holes
- Angled head and smooth blending of radii increase strength and reduce the danger of chipping.
- Below the head, squared-off shoulders have been forged to provide a surface for applying wrench to loosen wedged bull pins.
  Added resistance to "mushrooming" permitting much longer use than
- Point Diameter: 1/4"Length: 10"

•

• Weight: 1.6lbs

#### #66385

#66384

is possible with conventional designs.

One piece forged steel blade and bolster shank
Heat treated for long life
Well balanced for top efficiency during use
Black finish for rust resistance

Spring-Steel Ripping Bar



#### **Ratcheting Refrigeration Wrenches**



#### #68310

- Fully reversible ratchet wrench designed for refrigeration packing gland nuts and valve stem sockets.
- Also designed for beam-clamp installation
- Wrenches are compact in size, with clearly marked sockets for four nut sizes
- Quick-flip reversing lever permits instant ratchet reversal
- Wrenches are ruggedly built and have polished chrome finish with smooth edges for comfort
- Socket sizes: 3/16" and 5/16"sq. x 1/4" and 3/8"sq
- Length: 5 1/2", Weight: .2lbs

Forged spring steel 1/4" thick and 1 1/2" wide

#### #3238

the other at 90 °angle Keyhole nail-puller in body Length 14", Weight 1.6lbs

- Accepts 1/2" square-drive hex socket
- Reversible ratchet
- Eliminates the need for carrying several fixed size wrenches

Overall Length: 7". Blade Length: 3 1/2", Weight .3 lbs

Fully heat treated with sandblasted finish for better gripping Both ends with pry edge and "V" nail puller; one end curved,

1/2" Drive Ratcheting Construction Wrench

- Forged from select alloy steel with continuous-taper handle for aligning bolt holes
- Industrial black finish for corrosion resistance.
- Length: 15"





#### **Tape Rule Holders**

#### #5195

- Leather construction
- Cut-out sides for easy access to tape
- Slotted for attaching to belts up to 2
- 1/2" wide Riveted to assure long life
- Holds medium sized power return rules
- Overall size: 4 1/2" x 7", .18lbs

#### #5460

**Erection Wrench Holders** 

- Leather construction •
- Have tool-slots for two erection wrenches or adjustable head construction wrench
- Slotted belt connection to • accommodate up to 2" belt
- 6" x 8 1/2"
- .19 lbs

**Tool Organizer** 

#### #5777

- Constructed of double layered, 600 x 300 denier polyester to resist wear and tear on the jobsite
  - Water-resistant to avoid the buildup of mold and mildew
- Double layer of polyester at bucket edges for durability
- Interior pockets include: 3 tool sleeves, 1 power tool/cord sleeve, and 6 universal pockets
- Exterior pockets include: 9 screwdriver/nut driver pockets, 11 pliers pockets, 11 utility pockets, 2 wire stripper pockets, and 2 Velcro® closeable pockets.
- Heavy duty webbing keeps pockets open for easy access to supplies and tools
- Fits standard 5 gallon buckets
- Weight 3.9lbs

#### High Bottom Canvas Tool Bag



#### #5105-24

- Heavy -duty No.8 natural canvas
- Bottom and 8" of lower sides are covered with moisture-resistant vinyl
- Non-scratch studs on base protect • against wear
- Steel-frame mouth with hinge for rugged use
- Harness-leather handles with two retaining straps and buckles
- 24"L x 6"W x 15"D, 4.0 lbs

#### Canvas Electrode Bag

#### #5471 •

- **Round Bars**
- Made of tough No.4 #3247 & #3248 canvas
  - Heat resistant, hard leather bottom
- Web loop for sliding over belt.
- Diameter: 2 1/2"
- Front Depth: 12"
- Back Depth: 15 1/2"
- .25 lbs

#3247:3/4" diam., 24" long, 2.5 lbs #3248:7/8" diam., 30" long, 4.3 lbs

#### **Bull-Pin and Bolt Bags**

#### #5416T

- No. 4 canvas or leather with double bottom
- Bolt bag with bull-pin loop on each side
- Tunnel belt connection for up to 3" belt
- Length: 5", Width: 9", .9 lbs

- Provides extra leverage when
  - positioning steel members and aligning bolt holes.
  - Forged fit-up bar is pointed on one end
  - Chisel-end is at a 15° angle to give even greater leverage



#### Tigerhood <sup>®</sup> Classic Thermo Plastic Welding Helmets

TIGERHOOD® Classic contains the features that make lightweight thermoplastic welding helmets popular with today's welders. What makes it stand out is its performance and comfort enhancing extras that help welders produce more with fewer injuries. Molded from NORYL, job proven superior in welding related performance characteristic, TIGERHOOD Classic is the workhorse of thermoplastic helmets. It maintains its high performance level across a wide spectrum of welding processes and working conditions.

TIGERHOOD Classics unique design provides extended throat protection while blocking fumes and smoke from the face. Size and shape allow air to circulate, to help clear any smoke and fumes that seep in. Air circulation also evaporates perspiration in the perforated sweatband for a cooling effect.



Model 906 Features molded-in glass holder, telescoping lid provides a seal against light leak



Model 910 Features lightweight molded-in stationary glass holder with Flash Barrier



Model 913 Handshield Lightweight molded-in stationary glass holder with Flash Barrier



#### **TIGERHOOD®** Ultralite Model 190

Features a vertical glass holder, providing a full 24 square inches of unobstructed viewing area. It includes a TRU-VIEW polycarbonate filter plate to let a welder see in natural color (instead of dark green). Both the helmet and the lens are gold coated to deflect heat to lower the temperature inside the helmet by at least 20 degrees while extending its service life for a higher return on investment.

Available with standard shade 10 filter lens installed

#### **TIGERHOOD®** High Performance ADF Model 990 HPF

A quality Fibre-Metal welding helmet with auto darkening filter lens (ADF) increases productivity, improves quality, reduces downtime and rework, and lowers injury, TIGERHOOD® high performance ADFs have the highest optical quality available. Leading edge "intelligent" technology distinguishes between welding arcs and extraneous sources of light. State-of-theart interface between sensors and electronic controls result in stable, reliable performance and one of the industry's lowest frequency of repair and highest welder satisfaction ratings. Switching speed is many times faster than international standards require.





#### TIGERHOOD® FUTURA™ Model 2006

The TIGERHOOD® Futura<sup>™</sup> represents the latest in welding helmet technology and performance. An innovative, streamlined design combined with an exceptionally high performance material help welders make more and better welds. Available in three styles: Model 2090- Wide Vision, Model 2006- Lift Front Glass Holder, and Model 2001 Stationary Glass Holder . Streamlined shape is designed to work with spectacles or respirators. Features include Classic 3-C free floating headgear that balances and stabilizes helmet, easy to use front loading glass holder, lightweight construction for comfort and durability for extended service life. Comes with shade 10 filter plate installed.





## WELDING HELMETS

#### HEAD-TURNERS<sup>TM</sup> GRAPHIC HELMETS WITH STANDARD SHADE 10 LENS







**HSL100 Red Flames** 

#### HSL100 Dragon

HSL100 Hot Rod

Other designs are available. Call Robert's Oxygen today for more information.

#### • Narrow shell design is perfect for work in tight spaces and weighs only 13.8 ounces.

- Extended front increases throat protection against sparks, slag and fumes.
- Standard shade 10 filter plate and cover plates installed at factory.
- Meets ANSI A87.1 standards.

#### SHADOW TM THE BEST SELLING WELDING HELMET IN THE INDUSTRY



The narrow shell design is perfect for work in tight spaces, and the Shadow helmet's extended front increases throat protection against sparks, slag and fumes. Plus the Shadow helmet can stand up to radiant heat of 350°F, a minimum 50% improvement over most other thermoplastic shells. All Shadow helmets come complete with cover plate and shade 10 polycarbonate filter plate. The Shadow helmet is available in 4 colors: black, silver, red and blue.





## WELDING HELMETS

#### NEXGEN ELECTRONIC QUICK CHANGE



The Jackson NexGen <sup>™</sup> is truly the next generation of autodarkening for the welding specialist. The NexGen offers the flexibility of digital technology with the stability of analog to make the smartest auto-darkening filter on the market! With Jackson's Intellisense<sup>™</sup> technology the NexGen can sense the most precise welding applications, such as plasma arc and extreme low amp Tig.

One Superior Lens- Many Options !

- Intellisense <sup>™</sup> technology allows unit to detect welds less than 5 amps.
- Four redundant sensors in a staggered design eliminate blocked sensors.
- Unit has auto shut-off after 60 minutes in torch and grind modes. Weld mode has a 20 minute auto shut-off.
- Versatile cartridge fits in most 4" x 5" vertical windows.
- Replaceable lithium batteries.
- Smart View <sup>™</sup> LCD for fingertip control information.
- Low battery indicator.
- 3NI <sup>TM</sup> technology allows three modes of operation: weld (shades 9-13), grind (3), or torch (5)
  - Soft control panel eliminates contaminates and protects from outside environment.
  - Standard size outer cover plate
- 9 square inches of viewing area and four sensors
- Available in cartridge only, bulk packed or in a choice of two brand name helmets– the Jackson Shadow® and the Huntsman 951P<sup>™</sup>.



Ne, Gen

ac



.

Two Year

# ROBERTS

#### WELDING HELMETS



Millermatic

American Eagle

#### Miller Pro-Hobby TM Series

• Manual On/Auto –Off circuitry

Black

- Two independent arc sensors
- Features magnifying lens holder
- Extra protective lens covers included

Flame Red

Camouflage







Made from NORYL, the same material used in Fibre Metal's welding helmets, high performance faceshields are stronger more durable and more heat resistant than ordinary faceshields. They contain the exclusive Channel Grip System, which mount windows and locks them in place in a deep recessed channel to form a perfect seal from dust, dirt and debris.

**F-300:** Exceptionally lightweight and comfortable. Fits easily over today's spectacles with space for air circulation to prevent fogging. Accommodates a full selection of standard size (8" x 11 1/2") windows.





**F-400:** Deeper 4" crown protector extends protection without increasing weight. Incorporates wide-vision (8" x 17") wrap-around windows and screens which provide 40% more protective area than standard size faceshields. Fits easily over required spectacles or respirators. Available with choice of 3-C headgear or three protective cap mounting mechanisms.







4118 (Standard Size)

4178 (Wide Vision)

4178IR/UV5 (Wide Vision Shade 5)

4199 (Extended View)

#### Faceshield Windows

Fibre-Metal Faceshield windows are injection molded from propionate, which is superior to other window materials in every significant performance characteristic. They are pre-formed at the factory to the exact curve of Fibre Metal's crown protectors for easy installation, an exact fit and a perfect seal against dust, dirt, and debris. All high performance windows are .060" thick for an extra margin of protection, yet they cost no more than ordinary .040" thick windows. Available in three sizes, in clear, special tints and shade 5.



*High Performance Filter, Safety, Cover Plates and Lenses* Full line of filter, safety and cover plates plus magnifiers. Includes top quality glass or polycarbonate plates and lenses for virtually every metal fabrication application.

## ROBERTS

OXYGEN

Designed from highgrade cast sheet acetate available in .040" and .060" thickness protects against dust, small particles, and chemical splash.

Available aluminum bound and unbound.

## **FACESHIELDS**





Available in clear, light green and dark green.

Various sizes from 12" x 6" to 19 1/2" x 9"

Larger sizes provide additional protection from top, bottom and sides.

Excellent with 170-SB headgear.



Jackson has a large selection of top-quality polycarbonate and gold & green glass filter plates (both 2" x 4 1/2 and 4 1/2" x 5 1/4") for welding helmets. To prevent surface damage to welding filter plates, cover plates (in plastic or glass) should be placed over them. Be sure to use the correct filter shade for the job.

GUIDE FOR SHADE NUMBERS (ADAPTED FROM ANSI TABLE Z89.1)			
OPERATION	ELECTRODE SIZE 1/32 in. (mm)	ARC CURRENT(A)	SUGGESTED SHADE NO.
SHIELDED METAL ARC WELDING	LESS THAN 3 (2.5) 3-5 (2.5-4) 5-8 (4-6,4) MORE THAN 8 (6,4)	LESS THAN 60 60-160 160-350 250-500	9 10 12 14
GAS METAL ARC WELDING AND FLUX CORED ARC WELD- ING		LESS THAN 60 60-160 160-350 250-500	9 11 12 14
GAS TUNGSTEN ARC WELDING		LESS THAN 50 50-150	10 12
AIR CARBON ARC CUTTING	(LIGHT) (HEAVY)	150-500 LESS THAN 500 500-1000	14 12 14
PLASMA ARC WELD- ING		LESS THAN 20 20-100 100-400 400-800	6 TO 8 10 12 14
PLASMA ARC CUT- TING	LIGHT MEDIUM HEAVY	LESS THAN 300 300-400 400-800	9 12 14











#### Model E-2RW

Fibre-Metal's technologically advanced thermoplastic hats and caps are the quality leader in head protection. They combine exceptional protective performance with extraordinary comfort to reduce risk and improve productivity. The unique, smooth crown design eliminates the risk of an impacting object being trapped by ribs, ridges or slots. Certified to meet ANSI Z89.1-2003 Type 1, Class E, G or C. Available in a variety of colors.

1225



Fully dielectric-mounting bracket provides a positive seal to keep debris from filtering between cap and shield. The shield may be pivoted above the cap between uses without removing the cap.



#### 5000

Speedy-Loop provides easy on/off welding helmet mounting on protective caps. Fully adjustable to better fit Fibre-Metal caps and major competitive brands.

**3-SW2 Suspension Headband** has patented Swingstrap that enables wearer to convert from the front wearing position to the rear wearing position (and back) without having to reverse the suspension or headband. Features the industry's only 360° padded sweatband and the strip-proof, crack-proof ratched headband.





5400 Protective cap/ faceshield combination headgear



**3-C** Replacement customfit headgear



**3-RW2 Suspension Headband** Features the industry's only 360° padded sweatband and a strip-proof, crack proof ratchet headband.





## SAFETY CAPS

#### HEAD-TURNERS<sup>™</sup> JACKSON OFFERS A COMPLETE LINE OF HEAD PROTECTION –FROM SAFETY CAPS AND HATS TO BUMP CAPS WITH A WIDE SELCTION OF COLORS, SLOTTED AND NON-SLOTTED DESIGNS AND SUSPENSIONS OPTIONS. SLOTTED CAPS ALLOW FLEXIBILITY IN ATTACHMENT SUCH AS FACESHIELDS, WELDING HELMETS EQUIPPED WITH MOUNTING BLADES AND HEARING PRO-TECTORS. CHIN STRAPS ARE AVAILABLE FOR ALL MODELS. ALL SAFETY HATS AND CAPS (EXCLUDING BUMP CAPS) COMPLY WITH ANSI Z89.1 STANDARDS.



American Eagle

#### **PROTECTION WITH PERSONALITY!**

SC-3 non-slotted design. Fully dielectric. Design withstands temperature variances, humidity, and exposure to UV light for long lasting wear.

Suspension options: Ratchet only (#391)

Inferno

Razor



Fire and Ice



Hellraiser



#### #391 Head Hugger Suspension

Ratchet headgear provides over 30 adjustments for comfortable fit without removing headgear.

One piece soft and durable nylon headband with woven nylon crown head straps., terry cloth sweatband and two crown height adjustments.

Firm, secure fit makes the 391 valuable in caps carrying mounted accessories. Glory



**American Flag** 





## SAFETY CAPS

**SC-6** 



Slotted design. Constructed of durable but lightweight dielectric plastic with impact absorbing design. A soft, terry cloth sweatband and deep nape strap promote a firm, comfortable fit.

Colors available: yellow, white, green, blue, orange, red, and gray. Also available in black, brown and safety orange in ratchet only.

Suspension options: Standard (491), Ratchet (391) or Quickslide (191)



491 Snugfit-Standard

Highly efficient suspension system: standard headgear with woven nylon crown straps.

Removable terry cloth sweatband.

Adjusts to 13 head sizes and has two vertical adjustments for crown height.

Headband designed to hold goggle straps.

#### **Suspension Options**



391 Head Hugger

Improved Ratchet headgear provides over 30 adjustments for comfortable fit without removing headgear.

One piece soft and durable nylon headband with woven nylon crown head straps, terry cloth sweatband and two crown height adjustments.

Firm, secure fit makes the 391 valuable in caps carrying mounted accessories.



#### 191 Quickslide

The Quickslide offers a ratcheting system for the cost of a pinlock.

Adjusts quickly and easily to a wide variety of head sizes.

Extra-wide terry cloth sweatband.





## SAFETY EYEWEAR

#### NOMAD SAFETY SPECTACLES



- Stylish and lightweight •
- Detachable side shields

- High quality mirrored lens, perfect for different • lighting conditions.
- Meets ANSI Z87.1 standards with or without side • shields
- 8 Base Design

#### NEMESIS SAFETY SPECTACLES



- Frameless ultra-lightweight design . ideal for extended wear
- Slip-stop temples specifically designed to prevent slipping and slidin when hot.
- Compact temple length for a more • precise fit over ears
- No-brow design increases upward • and peripheral vision providing a "i glasses" feeling when wearing.
- Compact profile accommodates • smaller faces.
- Thin fold-down design for easy, con ٠ pact storage and carrying ability.
- Free neck cord included.

ANTI-FOG
/
IRROR
HELD
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)
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LUE



## WELDING ACCESSORIES



#### Uvex Ultra-Spec ® 2000

- Adjustable temple length
- Lens tints: Clear, Gray, Amber and SCT® -Orange
- Clear lens available with solid sideshields and spatula temples •











#### Uvex Astrospec 3000®

- Contemporary, lightweight unilens offers panoramic vision. •
- Easy and economical lens replacement system •
- Adjustable temple length •
- Frame colors: Black, Blue or Patriot •
- Wide variety of lens tints available including: Traditional, SCT®, and • Infradura® welding shades
- Meets Mil VO ballistic test for impact •

#### Uvex Astro OTG® 3001

- Same features as the Uvex Astrospec 3000 with attractive over the glass styling
- An economical alternative to expensive Rx eyewear
- Frame colors: Patriot, Black and Blue

#### Uvex Bandit TM

- Contemporary, sporty wrap around styling
- Adjustable temple length •
- Frame: Black and Slate
- Lens tints: Clear Espresso, Amber, Mirror and SCT®-Reflect 50 •
- Proudly made in USA, mirrored lenses made in China •
- Meets Mil VVO ballistic test for impact

#### **Uvex Bandido®**

- Economical, frameless version of the Uvex Bandit TM •
- Temple accent colors: Black, Hot Red and Black
- Lens tints available: Clear, Espresso, and Amber
- Proudly made in USA •

#### Uvex Cricket®

- Dual lens styling, lens size is 66mm •
- Adjustable temple length and lens inclination •
- Available with Duoflex® temples •
- Lens tints: Clear, Shade 3.0, Shade 5.0 •



## WELDING ACCESSORIES



#### 3M<sup>TM</sup> Particulate Respirator 8210, N95

- Designed to help provide comfortable, reliable worker protection against certain non-oil base particles.
- Lightweight construction helps promoted greater worker acceptance and comfort and increase wear time.
- Features 3M's Advance Electret Media (AEM), welded strap
- Workplace applications include grinding, sanding, sweeping, bagging and other dusty operations.



#### 3M<sup>™</sup> Particulate Welding Respirator 8212, N95 with Face Seal

- Designed for applications such as welding ,soldering, brazing torch cutting and metal pouring, and other operations where metal fumes may be present.
- Other applications include, grinding, sanding, sweeping bagging and other dusty/hot operations.
- Features the 3M<sup>™</sup> Cool Flow<sup>™</sup> Exhalation Valve, cake-resistant filter media, a comfortable foam face seal and fully adjustable straps.



#### 3M<sup>™</sup> Respirator R8511ES N95

- Recommended for sanding and working with fiberglass insulation and drywall sanding.
- 3M<sup>™</sup> Cool Flow<sup>™</sup> Exhalation Valve allows easy exhalation and heat reduction, which provides cool, dry comfort.
- NIOSH approved



#### 3M<sup>TM</sup> Half Face Piece Respirator Assembly 6391, Large

- When properly fitted, use in a variety of applications including welding, brazing, torch cutting, metal pouring, soldering and exposure to lead, asbestos, cadmium, arsenic, and MDA for concentration up to 10 times the Permissible Exposure Limit (PEL).
- Not for use in environments that are immediately danger to life or health (IDLH)



#### 3M<sup>TM</sup> Sanding and Fiberglass Insulation Respirator 8654ES

- Designed to help provide quality, reliable protection against certain particles generated while sanding, sweeping, or other dusty operations.
- Easy to breathe through, lightweight and comfortable.
- See warnings and instructions on package prior to use.

# ROBERTS

## WELDING ACCESSORIES





## 3M<sup>TM</sup> Half Face Piece Paint Spray/Pesticide Respirator Assembly #R6211( Medium), #6311 (Large)

• Can be used for spraying, brushing, or rolling oil or water based paint, primer, enamel, varnish, wood and deck stains, or refinishing with non-methylene chloride strippers.



#### 3M<sup>TM</sup> Latex Paint and Odor Respirator 8656ES

- Chemical absorbent removes odors
- Provides relief from latex paint odor, unpleasant smog levels and non-hazardous household odors.
- Lightweight, contour fit, easy breathability

#### 3M<sup>™</sup> General Purpose Ear Muff #1435

- Durable, lightweight, easy-to-use ear muffs are comfortable for extended wear
- Feature multi-position ear cups mounted on a wide, forked headband for comfort and a secure fit.
- Roomy, durable ear cups help provide a reliable fit. Soft sealing cushions provide a consistent ear cup seal.
- Recommended for moderately high noise situations (up to 95 dBA TWA)
- Replacement inserts and cushions available



#### 3M<sup>™</sup> Reusable Ear Plug, 1270 Corded

- Reusable multi-flange designed ear plug fits securely in the ear canal and provides reliable protection.
- Bright orange color provides high visibility to allow employers to identify employees wearing their ear plugs.
- Soft, cloth cord helps prevent loss of ear plugs.
- Can be washed and reused many times.

#### 3M<sup>TM</sup> Reusable Ear Plug 1260

Same features as #1270, without the cord.



#### 3M<sup>TM</sup> Banded Hearing Protector #1310

- Unique, flexible band makes fitting easy and maintains low pressure over a wide range of head sizes.
- Soft foam pads close the ear canal opening without being inserted into the ear
- Can be worn with band under the chin or behind the head
- Band can be reused many times for less waste.3M replacement pads (sold separately) are cost effective and easy to replace
- Comfortable alternative to ear muffs and ear plugs.

## ROBERTS

### WELDING ACCESSORIES



- Moldex Sparkplugs® Multi-Colored Foam Earplugs #6604
- Fun colored to spark up hearing protection programDifferent colors in every package
- Tapered for easy insertion into any ear canal
- Non-irritating smooth surface for added comfort
- NRR33

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## Q

- Moldex Pura-Fit® Foam Earplugs #6900 (corded)
- Longer length for easy fitting and removal
- Bright green color for easy compliance checks
- Tapered for easy insertion into any ear canal
- Non-irritating smooth surface for added comfort
  - NRR33

#### Moldex 2200 N95 Particulate Respirators

- Dura-Mesh® shell resists collapsing in heat and humidity
- Molded nose bridge seals easily without a metal nose band
- Naturally contoured face piece relieves pressure points
- Softspun® lining gives added comfort and durability
- Available in 3 sizes to fit most faces
- Flame retardants are added to the shell to help decrease flammability
- NIOSH certified to have a filter efficiency level of 95% or greater against particulate aerosols free of oil.

#### Moldex 2400 N95 Particulate Respirator Plus Nuisance Levels of Ozone and Organic Vapors

- Added carbon layer helps filter out nuisance levels of ozone and organic vapors (less than OSHA PEL)
- For most welding applications
- Exhale valve reduces hot air build-up to keep workers cooler
- Dura-Mesh® shell resists collapsing longer so workers use fewer masks.
- Flame retardants are added to the shell to help decrease flammability
- Contour molded nose bridge with soft foam nose cushion provides all day comfort.
  - Softspun® lining increases comfort and durability
  - NIOSH certified to have a filter efficiency level of 95% or greater against particulate aerosols free of oil

#### Moldex 2315 N99 Premium Particulate/ Welding Respirator



- For most welding applications
- Adjustable cloth straps for a more comfortable fit
- Molded nose bridge with soft foam nose cushion fits comfortably with a metal nose band
- Exhale valve reduces breathing resistance and hot air build-up for all day comfort
- Dura-Mesh® shell for durability and Softspun® lining for comfort
- Added flame retardants to help reduce shell flammability
- NIOSH certified to have a filter efficiency of 99% for particulates free of oil.





## TILLMAN WELDING GLOVES



Features brown reverse grain pigskin is soft n the hand with rugged exterior surface. Full 14" length. Kevlar ® stitching resists heat and adds strength Pigskin's natural resistance t oil and water makes it the welder's best choice for use in these conditions.

S, L,

14" top grain pearl premium elkskin stays soft even when hot. Welted fingers protect stitching. Reinforced thumb. Foam lined back. unlined palm. Lock stitched with Kevlar® thread for added strength. Pull tab provides easy on/off and extra protection. S, M, L, XL



14" top grain gold elkskin stays soft even when hot Reinforced thumb. Welted fingers protect stitching. Foam back, unlined palm. Lock stitched with Kevlar ® thread for added strength. Cowhide cuff won't roll down or bunch up. S, M, L

495

Rugged top grain pearl cowhide. Full 14" length. Kevlar ® stitching resists flame and adds strength. Cotton/ foam lining for maximum moisture absorption and heat protection. Straight thumb for best gun grip. Welted fingers protect stitching. Reinforced thumb area for longer lasting gripping power. Pull tab for easy on/off and extra protection when dragging welding gun.



M, L



Premium domestic side split cowhide. Full 14" length. Kevlar ® stitching resists heat and adds strength. Cotton/foam lining for maximum moisture absorption and heat protection. Wing thumb for best comfort and use. Welted fingers protect stitching. L



Premium bourbon brown side split cowhide. Full 14" length. Cotton lined. Kevlar ® stitched. Reinforced thumb. Pull tab provides easy on/off and extra protection. Welted fingers protects stitching from burning and abrasion. L





## TILLMAN WELDING GLOVES



Made from premium side split cowhide, full 14" length, cotton lined, wing thumb, Kevlar ® stitched, welted fingers. L



Made from premium side split cowhide. Full 18" length. Cotton lined. wing thumb, Kevlar ® stitched and welted fingers.



1075

Red, blue, pearl side split cowhide. Cotton foam lining for maximum moisture absorption and heat protection. Double reinforced thumb, Kevlar ® stitching , and welted fingers.

L



Features wing thumb design for most natural feel and best for all-around welding work. Double reinforced thumb provides extra protection on key thumb stress areas to maximize wear and protection. Cotton/foam lining gives welders additional heat protection & absorbs moisture. Kevlar ® stitching adds strength and resists heat.

M, L, XL

This premium, side split cowhide glove is available in other colors. Call Robert's Oxygen today for more information.

Same features as the #1250 in red side split cowhide. Available in large only.





Brown select shoulder split cowhide. Cotton lined for comfort. Straight thumb for best gun grip. Reinforced thumb area for added protection and strength. Welted fingers protect stitching. Kevlar ® stitching resists heat and adds strength. L



#### SMALL HANDS WELDING GLOVE

Smaller size for women's hands. 12" length. Cotton/foam lining. Wing thumb. Kevlar ® stitching , and welted fingers.

XS



## TILLMAN WELDING GLOVES

OXYGEN

**MIG Welding Gloves-**Heavyweight top grain pigskin. Soft but extremely durable. Great in wet conditions. Kevlar® stitching resists heat. Maximum stitches per inch increases seam strength. Straight thumb for best gun grip 4 cuff for added protection. S, M, L, XL

ROBERTS



1080

Cotton/foam lining for maximum moisture absorption and heat protection. Reinforced wing thumb, Kevlar® stitching, and welted fingers. Feature for feature an extraordinary value! L

**MIG Welding Gloves-**Economy model, made form brown split cowhide. Kevlar® stitching, Straight thumb, seamless forefinger for enhanced feel and 2" cuff. L





Premium domestic side split cowhide. Full 14" length, Kevlar ® stitching resists heat and adds strength. Cotton/foam lining for maximum moisture absorption and heat protection. Wing thumb for best comfort and use. Welted fingers protect stitching. L

Made from pearl deerskin split leather. Designed to maximize feel and dexterity while offering protection for TIG welders. Kevlar ® stitched with maximum stitches per inch for extra strength. Straight thumb for best gun grip. 25A-2" cuff 25B-4" cuff S, M, L, XL





Features top grain cowhide, Kevlar® stitching, wing thumb, seamless forefinger for enhanced feel, excellent all around handling and 4" cuff for added protection S. M. L

1350

Made from premium pearl top grain kidskin Superior feel and dexterity. Kevlar ® sewn. Maximum stitches per inch for greater strength. Straight thumb for best gun grip. 4" cuff. S, M, L, XL #24D - 2" cuff





Made from pearl top grain goatskin. Superior feel and dexterity. Kevlar® sewn. Seamless forefinger for enhanced feel. Wing thumb for comfortable all-around use. 4" cuff M, L, XL





## TILLMAN DRIVERS GLOVES Cowhide/Split Top Grain Pigskin, Goatskin, Split,

B Grade top grain cowhide palm, split leather back. Double stitching on forefinger provides extra strength. Keystone thumb provides natural feel and added protection.

S, M, L, XL, 2X



Premium top grain pigskin. Extremely durable, naturally breathable, and resistant to oil and water. Inseam on forefinger designed for multiple applications. Keystone thumb provides natural feel and added protection.







Top grain cowhide,

Fleece lined.. Keystone

thumb provides natural feel and added protec-

tion. Double stitching

on forefinger provides extra strength.

M, L, XL

(Pearl) Made from shoulder split cowhide. Double stitching on forefinger provides extra strength. Keystone thumb provides natural feel and added protection.

L, XL



Heavyweight top grain cowhide, unlined. Heavier weight is great for warehouse handling, spot welding and jobs that demand extra durability. Kevlar ® stitching with maximum stitches per inch for extra strength. Seamless forefinger for multiple applications. Slip on style cuff.

M, L



Rough textured rubber surface, designed for handling smooth, slippery or abrasive objects. Cut resistant. Great for gripping.

L



String Knit glove designed for general purpose lightweight work applications. 8oz. Cotton polyester string knit, knit wrist. Sold in packs of three.

L





## TILLMAN WORK GLOVES



Features cowhide split palm, canvas back, 2 1/2 rubberized safety cuff, cotton lined palm with unlined back and slightly select shoulder split cowhide. L, XL



Features cowhide split palm, canvas back, 2 1/2 inch rubberized safety cuff, cotton lined palm with unlined back and economy shoulder slit cowhide.

L



Economy shoulder split cowhide palm work glove. Cotton lined palm with unlined back. 2 1/2 inch denim cuff.

Ask about our quantity discounts on work gloves.



Economy latex dipped string knit. Lightweight red latex coating. Ideal for tasks including general maintenance, shipping receiving, assembly, concrete/brick/lumber handling.

Warning; Products contain natural rubber latex which may cause allergic reaction in some individuals.



Brown Jersey #1540 features 9oz., 100% cotton, and knit wrist. Designed for general purpose lightweight work applications.



Standard latex dipped string knit. Smooth blue latex coating. Provides added abrasion, snag and cut resistance for light duty applications. Ideal for tasks including general maintenance, shipping, receiving, assembly, concrete/brick/lumber handling. L





## TILLMAN WORK GLOVES



Features select shoulder

split cowhide palm can-

vas back. Double palm

for extra handling pro-

palm with unlined back.

tection. Cotton lined

2 1/2 inch rubberized

safety cuff.

Standard latex dipped string knit. Smooth blue latex coating, Provides added abrasion, snag and cut resistance for light duty applications. Ideal for general maintenance, shipping, receiving, assembly, concrete/brick/ lumber handling



Select shoulder split cowhide with full leather back. Rubberized safety cuff. Cotton lined palm with unlined back. L

Black Side Split Cowhide. Full 14" Length. Kevlar® Stitching adds strength and resists heat. Wing thumb design for most natural feel and best for all-around welding work. Double reinforced thumb for extra protection on key thumb stress areas to maximize



wear and protection. Welted Fingers protects stitching from burning and abrasion. Cotton/foam lining gives welders additional heat protection but still absorbs moisture



Side split cowhide for longer lasting, more comfortable, better fitting gloves. Full leather back, rubberized safety cuff and cotton lined palm with unlined back. L

1515

Select shoulder split cowhide palm, canvas back, 2 1/2" rubberized safety cuff and cotton lined palm with unlined back. L



Top grain pigskin palm, canvas back, 2 1/2" rubberized safety cuff, wing thumb to naturally fit contours of hand

L





Premium side split cowhide, double palm for extra handling protection. Kevlar ® sewn for extra strength. 2 1/2" rubberized safety cuff. Cotton lined palm with unlined back L





## TILLMAN WORK GLOVES



Premium top grain cowhide palm with canvas back . Heavy 2 1/2" safety cuff. Wing thumb naturally fits contours of hand.

M, L, XL



Premium top grain goatskin. Reinforced thumb to protect severe stress areas, longer elastic cuff for additional support and protection, breathable finger design wicks away moisture, double reinforced finger tips maximize protection. Hook and loop closure on top provides secure fit, less bulk, and side

bolsters for additional protection for side surface work. Nylon spandex back for precision fit. M, L, XL, 2X

Select shoulder split cowhide palm with canvas back. Cold-Block<sup>TM</sup> poly/cotton lined. Waterproof lining keeps hands dry. Heavy duty duck safety cuff. Wing thumb naturally fits contour of hand. XL



Top Grain Goatskin, reinforced thumb, smooth surface fingers for improved handling, nylon spandex back, double reinforced fingertips for heavy wear area protection, contoured shape, calibrated thickness maximizes dexterity, minimizes bulk, elastic cuff with hook and loop closure provides secure fit. S, M, L, XL, 2X





Premium top grain pigskin, naturally moisture resistant, Thinsulate <sup>™</sup> winter lined. Blue spandex back.

M, L, XL, 2X



Top Grain Cowhide smooth palm, camouflage nylon spandex back. Smooth surface fingers for improved handling, elastic cuff with hook and loop closure provides secure fit, less bulk. Contoured shape, calibrated thickness, maximizes dexterity, minimizes bulk. Reinforced thumb to protect severe stress areas. L, XL





## **TILLMAN WINTER GLOVES-POLAR FLEECE** Polar fleece offers a lightweight and warm alternative for winter work gloves.









	1580	1581	1582	1583	1584	1585	1586
POLAR FLEECE COLOR	Blue	Blue	Red	Orange	Gray	Green	Camo
PALM/ MATERIAL COLOR	Top Grain Pigskin Black	Cowhide Split Blue	Cowhide Split Black				
SIZE	S, M, L, XL	S,M,L,XL	L	L	S,M,L, XL	L	L,XL





Polar Fleece Gloves-

Feature soft, comfortable and warm polar fleece with Coldblock<sup>TM</sup> lining, rugged leather palms and elastic wrists for a snug fit to keep out the cold.







## Tillman Leather Clothes and Protective Gear



#### **Leather Jacket**

Soft pliable, durable side split leather, specially tanned for heat resistance. All seams double lock stitched with Keylar® Underarm gusset allows for easier movement. All button snaps leather reinforced . All button snaps black ;anodized to prevent arc flashback. All hardware plated to prevent arc flashback. All stress points rivet reinforced. Adjustable snaps on wrists and back. Convenient outside pocket.



Premium side split cowhide. Covers the entire shoe or boot with thicker leather that has been specially tanned to be stiffer, making it more resistant to sparks and spatter.

#### **Cape Sleeve**

All button snaps black anodized to prevent arc flashblack. All seams double lock stitched with Kevlar®. All stress points rivet reinforced. Soapstone pocket on each sleeve. All button snaps reinforced. Adjustable snaps at wrist

#### 20" Bib

All hardware plated to prevent rust. Soft pliable durable side split leather, specially tanned for eat resistance.



3221 3120

**Bib Apron** 

24" x 36"

#### Leather Sleeves

Made from premium bourbon brown side split cowhide. Leather protects top of shoulder down to wrist. Adjustable leather neck straps.

23" length (pair)



Waist Apron Made from premium side split cowhide. Heavy duty waist strap secures apron comfortably. L 24 x 24"

Other sizes available by special order.

4124





## TILLMAN LIGHTWEIGHT PROTECTIVE CLOTHING Flame Retardant Cotton Jackets



Tillman uses only USA made, Westex Proban® FR7A®, 100% cotton, flame retardant fabric. Proban ® FR7A® is designed to self extinguish when exposed to flame or thermal ignition sources, and will not shrink, melt or drip molten residues. This treatment offers:

- Economical protection for light duty welding activity only
- It is cool, comfortable, and washable
- Maintains flame resistance for up to 50 home washings 145 °F or 25 commercial washings up to 165°F. S, M, L, XL, 2X, 3X, 4X



L, XL, 2X, 3X,



S, M, L, XL, 2X, 3X

6120

6230C

S, M, L, XL, 2X, 4X



Flame retardant cotton sleeves with standard elastic at both ends, snap at wrist. 18"

30" Jacket, Side Split Leather and flame retardant cotton. The ideal combination for comfort and protection. Relaxed fit, spacious inside pocket, anodized button snaps, Kevlar® stitched seams, rivet reinforced stress points.

S,M,L,XL,2X,3X,4X



Bib apron features 9 oz. green flame retardant cotton, adjustable shoulder straps. 24" x 36"

Other styles and colors of lightweight protective clothing are available .Contact Robert's Oxygen for more information.

6221 #6221 Cape Sleeves Designed for protection on front of body, arms and shoulders with increased ventilation on back. 100% cotton Westex Proban ® FR7A® Anodized button snap closure. L, XL, 2X, 3X

#6120 Bib

9oz, 20"

Flame retardant cotton products are to be used for LIGHT DUTY WELDING ONLY



3M		carbon steel electrode	33, 35 , 37, 39-40	goggles	69
ear protection	87-88	cast iron electrode	33	gauge guards	64
respirators	87-88	centering head	68	glasses, safety	85-86
Α		chipping hammers	65	gloves	90-97
aluminum electrode	33	chop saw wheels	52	goggles	69
angle grinders	59-60	clamps	65-66	gouging torches	31
Anthony Cylinder Trucks		Contour		grinders, angle	59-60
cylinder stand	19	centering head	68	grinding wheels	45,47,49,53
oxygen/acetylene trucks	15-18	Wrap-A-Round	68	ground clamps	30
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Atlas		Ultra-Flex cable	63	hose, twin weld	65
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В		weld cleaning brushes	62	inspection mirrors	64
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band saw blades	61	earplugs/muffs	88-89	Jackson	
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Wypo		
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XYZ		



#### MARYLAND

Annapolis, MD 21401, 1801 George Ave. #B. Phone: (410) 263-5506 Fax: (410) 268-6892

#### **Distribution Location and Retail Store**

**Baltimore, MD** 21227, 1601 South Caton Ave. Phone: (410) 644-5015 Fax: (410) 644-5086

Baltimore, MD 21224, 4520 ODonnell St. Phone: (410) 522-7440 Fax: (410) 522-7455

Bladensburg, MD 20710, 4246 Kenilworth Ave. #A. Phone: (301) 927-5600 Fax: (301) 927-7280

**Cockeysville, MD** 21030, 10626 York Rd. Phone: (410) 683-1783 Fax: (410) 683-0198

**Edgewood, MD** 21040, 2014 Pulaski Highway. Phone: (410) 676-3900 Fax: (410) 676-3370

**Essex, MD** 21221, 712 Stemmers Run Rd. Phone: (410) 574-7501 Fax: (410) 574-4633

**Frederick, MD** 21704, 5705 Industry Lane. #Q. Phone: (301) 696-0044 Fax: (301) 696-0681

#### **Distribution Location**

Gaithersburg, MD 20877, 17011 Railroad St. Phone: (301) 948-8100 Fax: (301) 948-2465

**Glen Burnie, MD** 21061, 706 N. Crain Highway North #B. Phone: (410) 768-1175 Fax: (410) 787-9733

Hagerstown, MD 21740, 916 South Potomac St. Phone: (301) 791-6800 Fax: (301) 791-7600

Laurel, MD 20707, 13309 Baltimore Ave. Phone: (301) 470-1431 Fax: (301) 470-2133

#### **Distribution Location and Retail Store**

Marlow Heights, MD 20748, 4811 Stamp Rd. Phone: (301) 899-6400 Fax: (301) 423-4540

**Rockville, MD** 20855, 15830 Redland Rd. Phone: (301) 948-2205 Fax: (301) 948-0037

**Salisbury, MD** 21801, 2002 N. Salisbury Blvd. Phone: (410) 749-9620 Fax: (410) 749-9651

Westminster, MD 21157, 96 John St. Phone: (410) 840-0400 Fax: (410) 840-1912

#### **VIRGINIA**

**Charlottesville, VA** 22903, 770 Harris St. #101. Phone: (434) 296-1615 Fax: (434) 295-3848

Fairfax, VA 22031, 2929 Eskridge Rd. #A. Phone: (703) 698-5322 Fax: (703) 204-2913

Manassas, VA 20110, 8607 Quarry Rd. Phone: (703) 369-0400 Fax: (703) 631-8264

**Petersburg, VA** 28303, 2200 E. Washington St. Phone: (804) 733-4944 Fax: (804) 732-3468

## LOCATIONS

Distribution Location and Retail Store Portsmouth, VA 23701, 3931 Garwood Ave. Phone: (757) 487-7005 Fax: (757) 487-1510

Distribution Location and Retail Store Springfield, VA 22153, 7653 Fullerton Rd. Phone: (703) 644-5065 Fax: (703) 644-2630

**Sterling, VA** 20166, 45000 Underwood Lane #N. Phone: (703) 471-9586 Fax: (703) 471-9638

Distribution Location and Retail Store Richmond, VA 23230, 2117 N. Hamilton St. Phone: (804) 353-1355 Fax: (804) 353-0892

Distribution Location and Retail Store Waynesboro, VA 22980, 716 N. Bath Ave. Phone: (540) 949-7178 Fax: (540) 943-2148

Distribution Location and Retail Store Winchester, VA 22603, 221 Brick Kiln Rd. Phone: (540) 662-1180 Fax: (540) 722-9353

#### **PENNSYLVANIA**

**Distribution Location and Retail Store Collingdale, PA** 19023, 1230 MacDade Blvd. Phone: (610) 461-1952 Fax: (610) 461-1964

Distribution Location and Retail Store Johnstown, PA 15904, 125 Allison Drive Phone: (814) 266-6500 Fax: (814) 266-4353

Distribution Location and Retail Store Lancaster, PA 17601, 3150 Hempland Rd. Phone: (717) 390-3009 Fax: (717) 390-2059

Distribution Location and Retail Store Pleasant Gap, PA 16823, 380 West College Ave Phone: (814) 359-3399 Fax: (814) 359-4376

West Chester, PA 19382, 614 Westtown Rd. Phone: (610) 701-0700 Fax: (610) 701-9898

#### DELAWARE

Distribution Location and Retail Store Bridgeville, DE 19933, 16223 Sussex Highway. Phone: (302) 337-9666 Fax: (302) 337-9633

#### <u>NEW JERSEY</u>

Distribution Location and Retail Store Pleasantville, NJ 08232, 580 West Delilah Rd. Phone: (609) 484-8181 Fax: (609) 484-0281

#### NORTH CAROLINA

**Bessemer City, NC** 28016 1206 Edgewood Rd Phone (704) 629-9898 Fax: (704) 629-9696 **Distribution Location and Retail Store Charlotte, NC** 28206, 3320 Service St. Phone: (704) 371-3030 Fax: (704) 371-3033 **Distribution Location and Retail Store Greensboro, NC** 27409, 8311 Triad Dr. Phone: (336) 664-6565 Fax: (336) 664-6566

#### **SOUTH CAROLINA**

North Charleston, SC , 3270-A Associate Drive Phone: (843) 760-4000 Fax (843) 552-8005

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