

STULZ WELDING ELECTRODES

Stulz Manganese – XL

A high manganese-nickel-chrome electrode for joining manganese and building-up parts subject to extreme shock, impact and abrasion. STULZ MANGANESE-XL deposits have extreme resistance to hot-cracking where contraction strains cannot be relieved. No peening is required. Multiple pass can be applied.

For Strength

Welding of manganese to manganese, or manganese to dissimilar alloy steels. When repairs are made later, welds may be cut or trimmed by acetylene torch.

Physicals (weld deposit)

- Tensile Strength 125,000 lbs. PSI minimum
- Work-hardness 500+ Brinell (55+ Rockwell)
- Hardness at deposit 190 Brinell
- Resistance to shock High
- Coefficient of friction Low

Metallurgy

For austenitic, non-magnetic, weld deposit.

Chemistry (weld deposit)

C	Mn	Ni	Cr
.7	14.0	3.5	4.0

For Build-up on Cast Manganese: Stone-crushing jaws & cones, Barrel-head liners, Flight-trees, etc.

Hardfacing for Impact Resistance: Excavators, Bulldozers, Loaders, and on Stone-Crushing Plants: Chutes, Lips, Plates

Metal-on-Metal Resistance: Shot-blast Cabinets, Railroad Frogs & Cross-overs, Metal Recycling Plants, and Baler heads & floors.

Welding Current Range

AC or DC reverse polarity (electrode positive).

For flat, horizontal and vertical position.

ELECTRODE SIZE	AMPERAGE RANGE AC or DC
1/8" x 14"	100-150
5/32" x 14"	150-175
3/16" x 14"	190-220
1/4" x 14"	225-275
5/16" x 14"	300-350

STULZ HADFIELD GRADE • 12-14% MANGANESE • 1.1/1.4 CARBON

FLATS						ROUNDS	SQUARES	PLATES
SIZE	SIZE	SIZE	SIZE	SIZE	SIZE	SIZE	SIZE	THICKNESS
3/16" x 2-1/2"	<u>3/8"</u>	<u>1/2"</u>	<u>3/4"</u>	<u>1"</u>	<u>1-1/2"</u>	3/8" 2-1/4"	3/8"	** 1/8" ** 1-1/8"
	1"	1"	1-1/2"	1-1/2"	2"	1/2" 2-1/2"	1/2"	3/16" † 1-1/4"
<u>1/4"</u>	1-1/2"	1-1/2"	2"	2"	6"	3/4" 3-1/8"	3/4"	1/4" 1-3/8"
1"	2"	2"	2-1/2"	3"		7/8" 3-1/2"	1"	5/16" 1-1/2"
1-1/2"	2-1/2"	2-1/2"	3"	4"	<u>2"</u>	1" 4-1/8"	1-1/4"	3/8" 1-5/8"
2"	3"	3"	3-1/2"	5"	3"	1-1/8" 4-1/2"	1-1/2"	1/2" 1-3/4"
2-1/2"	4"	3-1/2"	4"	6"	4"	1-1/4" 5-1/8"	2"	5/8" 2"
3"	4-1/2"	4"	5"	8"	6"	1-1/2" 5-1/2"		3/4" 2-1/4"
4"	5"	5"	6"			1-3/4" 6-1/8"		7/8" 2-1/2"
5"	6"	6"				2" 6-3/4"		1" 3"
						7-1/8"		

STULZ WELDING ELECTRODES

Stulz Universal Hardface

A shielded electrode for hard-surfacing and building-up carbon steels, low alloy steels, and high manganese steels. The deposit is self-hardening to resist severe abrasion, battering, and impact. UNIVERSAL HARDFACE has high wear resistance to a wide range of abrasion and impact combinations. It reduces the need for many specialized hardfacing electrodes in heavy applications.

Applications:

Carbon, low alloy and high manganese steel parts requiring protection from a wide range of severe abrasion and impact combinations: Typical examples are shovel buckets and teeth, crusher rolls, jaws, mantles and hammers, dredge cutter heads, pump shells and impellers, lips and tumblers, sheepsfoot tampers, augers, etc.

Work hardens to 45 Rockwell

Welding Current Range

AC or DC reverse polarity (electrode positive) and hold fairly close arc for flat and vertical-overhead welding.

ELECTRODE SIZE	AMPERAGE RANGE AC or DC
1/8" x 14"	90-110
5/32" x 14"	125-165
3/16" x 14"	140-200
1/4" x 14"	185-240

Standard Packaging: Six 10-pound polyethylene, moisture-proof containers.

Stulz Ultra-Hard 60

A chrome/silicone carbide hardfacing electrode. It is a very high original hardness and gives excellent results where heavy abrasion and medium impact is involved. Due to initial hardness of 60 Rockwell, it is limited to two passes

Applications:

Sand and gravel pump impellers and shells, buckets and loader lips, conveyor screws, pug mills, mixer chutes and blades, bulldozer end bits, snow plow shoes, cinder and slag handling equipment, high-flow abrasive media chutes, and etc.

Standard Packaging: Six 10-pound polyethylene, moisture-proof containers.

Welding Current Range

AC or DC reverse polarity (electrode positive) and hold fairly close arc for flat and vertical-overhead welding.

ELECTRODE SIZE	AMPERAGE RANGE AC or DC
1/8" x 14"	120
5/32" x 14"	160
3/16" x 14"	210
1/4" x 14"	270

STULZ SEMI-AUTOMATIC WELDING WIRES

OPEN ARC – DC REVERSE POLARITY

	SIZE	.045"	1/16"	7/64"
STULZ MANGANESE XL- S/A <ul style="list-style-type: none"> • Austenitic, Manganese-Nickel-Chrome Wire • Join Manganese to Manganese • Build-Up Crushers, Buckets, Hammers, Etc. • High Deposit rate of up to 20#/hr • No Limit of passes • Gas-Shielded 	Weight	33 lb Spool	33 lb Spool	50 lb Spool
	Volts	22	18/20	24/26
	Amps	150	180/200	250/300
	Stick-out	3/4"	3/4" - 1"	1 1/2" - 2"
STULZ #1616-SA <ul style="list-style-type: none"> • High Chrome, High Manganese Wire • Join Manganese to itself or Carbon Steel • Build-Up worn parts or Abrasion with Impact • Strong Versatile Electrode with 38% Elongation • Deposits at 240 bhn to Work-harden to 500-600 • .045 Requires Tri-Gas (H 90%, Ar 7.5%, CO2 2.5%) • 1/16" and 7/64" Gas Shielded • Cannot be flame cut 	Weight	33 lb Spool	33 lb Spool	50 lb Spool
	Volts	24 Flat 20 Vertical	25 Flat 23 Vertical	25
	Amps	175 Flat 150 Vertical	200 Flat 175 Vertical	300
	Stick-out	3/4"	3/4"	3/4" - 1 1/4"
STULZ HARDFACING #12-S/A <ul style="list-style-type: none"> • Chrome/Moly Magnetic Deposit of 50-55 RC • Excellent Resistance to High Abrasion • Very high bead hardfacing deposit of up to 25#/hr • Limited to 2 passes • Gas-Shielded 	Weight	33 lb Spool	33 lb Spool	n/a
	Volts	23/26	24	
	Amps	150/200	250	
	Stick-out	3/4"	3/4" - 1"	
STULZ MULTI-LAYER 50 S/A <ul style="list-style-type: none"> • Hardfacing wire with multi-pass capabilities. • One wire answer to jobs requiring major build-up. • Can be welded on either carbon or manganese steel. • Chrome-Manganese-Moly analysis with undiluted deposit hardness of 45 RC (2 layers) to 50 RD (4 or more layers). • Gas-Shielded 	Weight	n/a	n/a	60 lb Spool
	Volts			30
	Amps			350
	Stick-out			1 1/2" - 2"
STULZ SPECIAL ALLOY S/A <ul style="list-style-type: none"> • A dual-shield, flex-core welding wire for use with Stulz-Creusabro 4800 & 8000, Stulz Alloy/Wear products and other carbon steels. • Use on Cutting Edges, Shanks, Vibratory and High Stress weld zones for longer life. • Excellent tensile strength and resistance to cracking under impact. • Requires shielding gas : 75% Argon 25% CO2 • Tensile Strength: 83,000 PSU - Yield: 65,000 PSI 	Weight	33 lb Spool	33 lb Spool	n/a
	Vertical-Up	Current/Volts 120-225 • 23-25	Current/Volts 175-375 • 22-27	
	Overhead	140-225 • 22-24	180-250 • 23-27	
	Flat & Horz.	100-250 • 24-26	175-350 • 24-30	
	Stick-Out	3/4"	3/4"	

INSTANT HARDFACING

Stulz Titanium-Imbedded Wear Strips

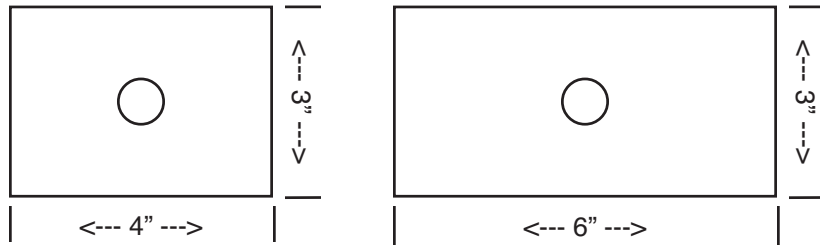
- Custom Length & Width
- Various Thicknesses: 1/8" on 1/8", 1/4" on 1/4", 3/8" on 3/8" and more!
- Through-out imbedded titanium hardened steel
provides High Abrasion Wear Resistance with easy welding.

TYPICAL APPLICATIONS:

INDUCTION FAN CASINGS • ASPHALT MIXERS • COKE & SAND MACHINES
 BLAST HANDLING MACHINES • PULP MACHINES • CYCLONE SEPARATORS
 CEMENT MILLS & MIXERS • CULLET CHUTES • SKIP CAGES
 PUG MILLS • FEEDERS • MINE CARS • DISCHARGE FUNNELS
 LOADER CHEEK PANELS • CUTTING EDGE FACE LIP

Stulz Wear Patches – *Stulz Special Alloy electrodes recommended.*

3/16" Thick
Hardness 60 RC
100 per package (3" x 4")
50 per package (3" x 6")



Stulz Jumbo Wear Patches – *Stulz Special Alloy electrodes recommended.*

1/4" Thick
Hardness 60 RC

Size	Package
1/4" x 3" x 4"	75 pcs/box
1/4" x 4" x 5"	50 pcs/box
1/4" x 5" x 7"	25 pcs/box

3/8" Thick
Hardness 60 RC

Size	Package
3/8" x 4" x 5"	25 pcs/box
3/8" x 5" x 7"	12 pcs/box

