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 dissimiliar alloy steels. When repairs are made later, welds may be cut or trimmed by acetylene torch.

Physicals (weld deposit)

Tensile StrengthWork-hardeness125,000 lbs. PSI mininum500+ Brinell (55+ Rockwell)

Hardness at deposit 190 Brinell
 Resistance to shock High
 Coefficient of friction Low

Metallurgy

For austentic, non-magnetic, weld deposit.

Chemistry (weld deposit)

<u>C</u> <u>Mn</u> <u>Ni</u> <u>Cr</u> .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 Cabinents, 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

SIZE SIZE SIZE SIZE SIZE SIZE SIZE THICKNESS 3/16" x 2-1/2" 3/8" 1/2" 3/8" 1" 1-1/2" 1-1/2" 2" 1/2" 2-1/2" 1/2" 2-1/2" 1/2" 3/8" 1-1/4" 3/8" 1-1/4" 3/16" † 1-1/4" 1-1/4" 1-1/4" 1-1/2" 1-1/2" 1-1/2" 2" 6" 3/4" 3-1/8" 3/4" 1/4" 1-3/8" 1/4" 1-3/8" 1/4" 1-1/2" 1-1/2" 1/2" 1-1/2" 1/2" 1-1/2" 1-1/2" 1-1/2" 1-1/2" 1-1/2" 1-1/2" 1-1/4" 3/8" 1-5/8" 1-1/4" 3/8" 1-5/8" 1-1/4" 3/8" 1-3/4" 1-1/4" 1-1/4" 1-3/4" 2" 3" 3" 3" 1-1/8" 4-1/2" 1-1/2" 1-1/2" 1/2" 1-3/4"		FLAT		FLATS	S		ROUNDS		SQUARES	PLATES	
$ \begin{array}{c ccccccccccccccccccccccccccccccccccc$	SIZE	SIZE	SIZE	SIZE	SIZE	SIZE	SIZE		SIZE	THICKNESS	
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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

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"	90-110
5/32" x 14"	125-165
3/16" x 14"	140-200
1/4" x 14"	185-240

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

OI EN Anc De	SIZE	.045"	1/16"	7/64"
STULZ MANGANESE XL – S/A • Austentic, Manganese-Nickel-Chrome Wire • Join Manganese to Manganese	Weight	33 lb Spool	33 lb Spool	50 lb Spool
 Build-Up Crushers, Buckets, Hammers, Etc. High Deposit rate of up to 20#/hr No Limit of passes Gas-Shielded 	Volts Amps Stick-out	22 150 3/4"	18/20 180/200 3/4" - 1"	24/26 250/300 1 1/2" - 2"
STULZ #1616-SA • High Chrome, High Manganese Wire • Join Manganese to itself or Carbon Steel	Weight	33 lb Spool	33 lb Spool	50 lb Spool
 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 Cannont be flame cut 	Volts Amps Stick-out	24 Flat 20 Vertical 175 Flat 150 Vertical 3/4"	25 Flat 23 Vertical 200 Flat 175 Vertical 3/4"	25 300 3/4" - 1 1/4"
STULZ HARDFACING #12-S/A • Chrome/Moly Magnetic Deposit of 50-55 RC • Excellent Resistance to High Abrasion	Weight	33 lb Spool	33 lb Spool	n/a
 Very high bead hardfacing deposit of up to 25#/hr Limited to 2 passes Gas-Shielded 	Volts Amps Stick-out	23/26 150/200 3/4"	24 250 3/4" - 1"	
STULZ MULTI-LAYER 50 S/A • Hardfacing wire with multi-pass capabilities. • One wire answer to jobs requiring major build-up.	Weight	n/a	n/a	60 lb Spool
 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 	Volts Amps Stick-out			30 350 1 1/2" - 2"
STULZ SPECIAL ALLOY S/A • A dual-shield, flex-core welding wire for use with Stulz-Creusabro 4800 & 8000, Stulz Alloy/Wear	Weight	33 lb Spool	33 lb Spool	n/a
 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. 	Vertical-Up Overhead Flat & Horz.	Current/Volts 120-225 • 23-25 140-225 • 22-24 100-250 • 24-26	Current/Volts 175-375 • 22-27 180-250 • 23-27 175-350 • 24-30	
 Requires shielding gas: 75% Argon 25% CO2 Tensile Strength: 83,000 PSU - Yield: 65,000 PSI 	Stick-Out	3/4"	3/4"	

INSTANT HARDFACING

Stulz Titanium-Imbedded Wear Strips

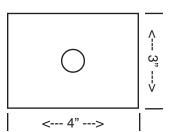
- Custom Length & Width
- Various Thicknesses: 1/8" on 1/8", 1/4" on 1/4", 3/8" on 3/8" and more!
- Through-out imbedded titanium hardened steel provides High Abrasion Wear Resistance with easy welding.

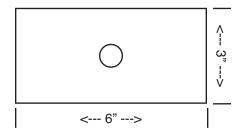
TYPICAL APPLICATIONS:

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.

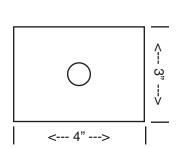
3/16" Thick Hardness 60 RC 100 per package (3" x 4" 50 per package (3" x 6")





Stulz Jumbo Wear Patches – Stulz Special Alloy electrodes recommended.

1/4" Thick 3/8" Thick Hardness 60 RC Hardness 60 RC Size Size Package **Package** 1/4" x 3" x 4" 3/8" x 4" x 5" 75 pcs/box 25 pcs/box 1/4" x 4" x 5" 50 pcs/box 3/8" x 5" x 7" 12 pcs/box



1/4" x 5" x 7"

