STEEL REBUILD100S

Technical Data Sheet

ATLAS POLYMERS

MATERIAL DESCRIPTION

Atlas Steel Rebuild 100S is an odorless, 100% solids rebuild grade system for parts and machinery. Engineered to simplify maintenance procedures and reduce the need for replacement parts. Steel Rebuild 100S can be drilled, tapped, filed or machined while offering outstanding mechanical properties. USDA approved for incidental contact with food.

INTENDED USES

- Repair of worn shafts
- Repair or sheaves
- Casting for tool and die making
- Plate bonding & structural adhesive
- Worn keyway repair
- Engine casing repairs
- Flange face reconstruction
- Pitting and erosion resurfacing

STORAGE AND TECHNICAL INFORMATION

Unit Size	1 Kg
Shelf Life	3 Years when stored between 20 °F and 86 °F
Application Temperature (Ambient)	40 °F - 95 °F (Ambient)
Mixing Ratio (Volume)	3 Parts Base to 1 Part Hardener
Coverage Rate@ 1/4"	94.4 in^2 (0.65 ft^2) per unit
Volume Capacity	23.6 in^3 per unit
VOC	0.0 Lbs/Gal; 0.0 g/L
Consistency	Paste
Available Colors	Gray

PRODUCT PERFORMANCE

Heat Resistance:	392 °F Dry I 250 °F Immersed	NACE TM0174
Compressive Strength:	15,000	ASTM D695
Tensile Strength:	4,700	ASTM D638
Flexural Strength:	8,000	ASTM D790
Hardness:	90 Shore D	ASTM D2240
Impact Resistance:	4.40 ft-lb/in	ASTM D4226
Abrasion Resistance:	0.5 % Weight Loss under high velocity sliding particle	

CURE SCHEDULE

Service / Temperature	41 °F	59 °F	77 °F	86 °F	90 °F
Pot Life	35 mins	20 mins	15 mins	10 mins	5 mins
Light Loading (Machining)	6 hrs	3 hrs	1 hr	45 mins	30 mins
Heavy Loading (Full Service)	4 days	36 hrs	15 hrs	9 hrs	6 hrs
Full Cure (Chemical Immersion)	5 days	3 days	2 days	36 hrs	15 hrs

CHEMICAL RESISTANCE *EX = 30 Days @ 72°F

10% Lactic Acid	Ex*	10% Hydrochloric Acid	Ex*	Butanol	Ex*
10% Nitric Acid	Ex*	5% Phosphoric Acid	Ex*	Diesel	Ex*
10% Sulfuric Acid	Ex*	Propanol	Ex*	Oil	Ex*
Motor Oil	Ex*	Diesel Fuel	Ex*	Kerosene	Ex*

TECHNICAL SUPPORT

Atlas Steel Rebuild 100S is backed with technical support from staff engineers, certified coatings inspectors, research laboratories and personnel 24 hours a day 7 days a week.
Call (786) 312-1231

MADE IN THE USA

3328 NW 29th St. Miami, FL 33142
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Material Application Guidelines

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SURFACE PREPARATION

Surfaces to which Atlas Steel Rebuild 100S is to be applied must be clean firm and dry. Any contamination such as rust, mill scale, dust, oils, grease, fats, waxes, weld spatter and coatings/ sealers must be removed and or washed prior to the application of Steel Rebuild 100S.

- Surfaces should be abraded through mechanical means to provide a surface cleanliness of NACE No. 2 I SSPC-SP 10 with a roughness profile of 3 to 4 mils for metals. To the touch, a surface roughness of 3 to 4 mils is equivalent to 60-grit sandpaper or coarser.
- Cracks should be stabilized by drilling the ends. Long cracks should be stabilized by tapping and bolting along crack line every 3 to 4 inches. Also, please remember to vee out all cracks as well.
- For hard surfaces where grit blasting or grinding will not yield the desired surface profile, tack weld an open mesh screen or expanded metal approximately 1/16 to 1/8 inch above the surface.
- Please note that any surface irregularities should be properly addressed prior to the application of Steel Rebuild 100S. Also, please note that waxes, oils or greases should be removed with water and soap. Solvent such as acetone or MEK will not remove them.

MIXING

1. To mix Atlas Steel Rebuild 100S measure a 2:1 mixing ratio or empty entire contents onto a clean mixing board.
2. If mixing full units, scrape all Hardener from the container and ensure that walls are scraped on the Base container during mixing. If mixing on a board, ensure no unmixed Base or Hardener remain on putty knife.
3. Mix thoroughly with a putty knife until the mixture becomes a uniform color (about 2 minutes).
4. Mixing at temperatures below 41 °F may be difficult. It is recommended that the Base and Hardener be heated to a temperature between 68 °F and 77 °F in a hot water bath prior to mixing in order to easy the mixing process.
5. Ensure correct mixing. Poor mixing will results in soft spots, poor curing and loss of physical properties.

APPLICATION

1. Apply the Atlas Steel Rebuild 100S directly on to the prepared surface with a spatula or putty knife.
2. Press down firmly to fill the surface profile, cracks, remove entrapped air and increase adhesion.
3. Steel Rebuild 100S can be applied at a finished thickness of at least 1/8", but may be built to 1" or more.
4. For application over large gaps stipple Steel Rebuild 100S onto a metallic mesh and place over the gap.
5. In the case that an additional layer of any other Atlas product is to be applied over Steel Rebuild 100S, it should be applied as soon as possible after the first layer and no later than 2 hours at 70 °F.

CLEAN-UP AND CONSIDERATIONS

Clean Atlas Steel Rebuild 100S from tools with isopropyl alcohol, acetone or mineral spirits. This should only be done before it has hardened. Once hard, it can only be removed through mechanical abrasion or grit-blasting.

Despite containing steel alloy fillers, Atlas Steel Rebuild 100S has excellent electrical insulating properties. For any questions regarding any property of Atlas Rebuild 100 please contact Atlas Polymers technical service team.

SAFETY & WARRANTY

Atlas Steel Rebuild 100S is a steel alloy filled epoxy resin system. Please refer to the Material Safety Data Sheets prior to using this product. Do not weld on or near the Hardener epoxy, hazardous fumes will be released.

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