

HDA-90

Technical Data Sheet



MATERIAL DESCRIPTION

Atlas HDA-90 is an advanced aloxite containing 90% pure, fine grade ceramic specially formulated to provide a tough wear surface. Atlas HDA-90 is manufactured to the highest standards and provides the best protection available in the industry against wear, erosion, high temperature and chemical resistance.

INTENDED USES

- Repair of power plant fans
- Repair of cyclonic separators
- Repair of pipes and elbows
- Protection of fan housings
- Protection of chutes and hoppers
- Protection against high abrasion
- Outstanding chemical resistance
- Preventing wear at high temperatures

STORAGE AND TECHNICAL INFORMATION

Unit Size 5 US Gallon Pail (42 Lbs)
 Coverage Rate 7 Square Foot per Box
 Water Absorption 0%
 Gas Absorption 0%
 Density 3.60 gm/cc
 Thermal Conductivity 1 6.7 W/mK (ASTM-C408)
 Dielectric Strength 210 ac V/Mil (tested at 6.35 mm thick)
 Crystal Size 4 Microns (Average)
 Available Colors White

PRODUCT PERFORMANCE

Heat Resistance:	900 °F / 482 °C (Under Load)	Field Test
Compressive Strength:	2,482 MPa	ASTM-C773
Tensile Strength:	221 MPa	ACMA TEST #4
Flexural Strength:	338 MPa	ASTM-F417
Hardness:	75	ROCKWELL 45 N
Fracture Toughness:	3-4 Mpa m ^{1/2}	NOTCHED BEAM
Abrasion Resistance:		0.36 *

*WEAR TEST

Wear Resistance – Impingement tests are run using a dry fused alumina abrasive. Rubbing tests are run using a dry 240 grit fused alumina abrasive. The indices in the chart are calculated by dividing the material volume loss by the volume loss of an HDA-90 alumina control. The lower in the index, the better the wear resistance.

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 HDA-90 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

HDA-90

Material Application Guidelines



SURFACE PREPARATION

Surfaces in which Atlas HDA-90 is to be installed 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 installation of HDA-90.

- Surfaces should be abraded through mechanical means to provide a surface cleanliness of NACE No. 2 / 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 HDA-90. 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.



CLEAN-UP AND CONSIDERATIONS

All resins used with the installation of Atlas HDA-90 can be cleaned 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.



BONDING

Bonding Atlas HDA-90 can be carried out in the following ways:

Medium Bonding Strength:

Mix and apply Atlas Steel Rebuild 100S to the surface at approximately 1/4" thickness. Firmly Press Atlas HDA-90 onto the Steel Rebuild 100S until the material flows between all the tiles. Please ensure that the mesh of the HDA-90 is facing up and not down into the Steel Rebuild 100S.

High Bonding Strength:

Mix and apply Atlas AbraCoat 10B to the surface at approximately 20 mils thickness. Firmly Press Atlas HDA-90 onto the AbraCoat 10B and allow to cure to light loading as per AbraCoat 10B TDS & MAG. Please ensure that the mesh of the HDA-90 is facing up and not down into the AbraCoat 10B. Once cured, remove the mesh from the HDA-90, mix Atlas Abralox 10A and apply over the HDA-90. Ensure that the Abralox 10A is introduced into the gaps between the tiles and allow to cure as per Abralox 10A TDS & MAG.



SAFETY & WARRANTY

Atlas HDA-90 is a ceramic system. Please refer to the Material Safety Data Sheets prior to using this product.

Atlas Polymers, Corp. guarantees this product will meet the performance claims stated herein when material is stored and used as instructed in this document. Atlas Polymers further guarantees that all its products are carefully manufactured to ensure the highest quality possible and tested strictly in accordance with universally recognized standards. Since Atlas Polymers has no control over the use of the product described herein, no warranty for any application can be given.