

HAR

Carbide Putty

GENERAL DESCRIPTION

HAR is a more abrasion resistant putty than SAR, which is used primarily in areas requiring more resistance to fine slurries either in liquid or powder form. Common applications are in coal mills, chutes, ash hoppers or deflector plates in FGD systems.

FEATURES

- Outstanding resistance to entrained solids and abrasion
- Very good chemical resistance
- Excellent temperature and thermal shock resistance
- Extended pot life
- Easily built up for thick applications

PACKAGING

1 kg. and 4 kg. units

COVERAGE

HAR is a trowel-on rebuilding compound and can be applied up to 250 mils/coat. Thicker applications can be achieved by multiple layers. Theoretical coverage at 40 mils is 31 cubic inches per kg.

MIXING RATIO

2 parts base (B) to 1 part (A) hardener by weight
2 parts base (B) to 1 part (A) hardener by volume

POT LIFE

For a 1 kg. unit, mix at 70°F, pot life is approximately 45 minutes. Higher temperatures or larger mass will shorten this time, lower temperatures or smaller mass will extend it. Pot life can also be extended by spreading the mass out to dissipate heat.

COLORS

HAR is grey in color.

TECHNICAL DATA AND INFORMATION

Basic Chemical Resistance at Room Temperature:

Inorganic Acids	Very Good
Organic Acids	Good
Solvents	Good
Alkalis	Excellent
Salts	Excellent
Alcohols	Excellent
Hydrocarbons	Excellent

Typical Physical Properties of Cured System:

Density	1.94
% Solids	100
Flexural Strength @ 70°F	20,800 psi
Tensile Strength @ 70°F	11,700 psi
Tensile Shear @ 70°F	3,000 psi
Max. Dry Operating Temp	500°F
Operating pH Range	1.5-14.0

SURFACE PREPARATION

- For maximum adhesion, material should be applied to a firm, clean, dry and abraded surface.
- Best results will be obtained by abrasive blasting the surface.
- If blasting is impractical, a grinding wheel, needle gun, or very stiff wire brush may be used.
- Clean greasy, oily or waxed surfaces with suitable solvent before applying material.

MIXING

Mix ALL of Part A with ALL of Part B. Mixing may be done on a large mixing board or container large enough to hold both the base and hardener. The selected mixing surface must be clean and dry. Mix the material thoroughly until no streaks of any kind are visible. If materials are cold, warm them to 70°F before mixing.



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CLEANUP

All mixing and applications tools should be immediately wiped or scraped clean when finished with using.

APPLICATION

HAR is best applied with a squeegee, trowel or the plastic applicator supplied with the kit. Press material thoroughly into substrate and insure a completely wetted out surface. Build up to the required thickness with a second pass. Large cracks or holes should be bridged with glass or metal cloth. Reinforcement should be overcoated.

For best results, do not apply:

- When temperature is below 50°F.
- When humidity is over 90%
- When there is moisture on the surface
- When surface temperature is not 5°F above dew point

OVERCOATING

For pinhole control and/or thicker buildup, two or more coats may be employed. **HAR** may be overcoated with other **DUROMAR** materials such as **EAC** or **EXP** for enhanced smoothness or increased chemical resistance. Overcoating may begin as soon as the first coat is firm enough to accept a second coat. In high humidity or cold temperatures a blush may develop which should first be wiped down with clean water. The following table is an approximate guide to the earliest and latest times an overcoat may be applied:

HAR Overcoating Window

55°F	70°F	80°F
3-8 hrs.	2-6 hrs.	1-4 hrs.

At 70°F, if 6 hours have elapsed or the material is dry to the touch, it must be roughened before overcoating. The preferred method is a light abrasive brush blasting. Other treatments are light sanding, grinding or wire brushing.

Q/C

The material should be visually inspected just after application and touched up where necessary. The material cannot be spark tested because of the conductive fillers necessary to achieve the abrasion resistance of the **HAR** material. Therefore extreme care must be used when inspecting the surface.

FORCE CURING

Force cures are recommended for severe service conditions as both the physical and chemical properties are enhanced. Force curing should not start until material has firmly set.

Recommended Force Cure Schedule:

- 1 hour at 250°F
- 4 hours at 180°F
- 8 hours at 120°F

STORAGE

Store in dry area in closed containers between 50°F and 110°F. Shelf life at these conditions is greater than one year.

HEALTH AND SAFETY

READ AND UNDERSTAND ALL MATERIAL GIVEN IN THE MSDS SHEETS BEFORE USING THE PRODUCT.

HAR DOES NOT CONTAIN ANY FLAMMABLE MATERIAL OF ANY KIND. HOWEVER, THE MATERIAL IS COMBUSTIBLE. IN THE EVENT OF A FIRE, DRY POWDER, FOAM, OR CARBON DIOXIDE FIRE EXTINGUISHERS SHOULD BE USED. FIRE FIGHTERS SHOULD WEAR RESPIRATORS.

USE PROTECTIVE GLOVES AND EYEGASSES WHEN USING.

USE IN AREAS OF GOOD VENTILATION.

LIMITED WARRANTY

All recommendations covering the use of this product are based on past experience and laboratory findings. Methods or conditions of application and use of the product are beyond our control. We assume responsibility only for the uniformity of our product within normal manufacturing balances.

All Duromar products are formulated based on over 25 years of experience, laboratory tests, material data, field installations, and technical publications, which we believe to be, to the best of our knowledge, accurate and reliable. This information is intended to be used for guidance only. Because the only true reliable test is one that is in actual operation, Duromar will make available at no charge samples of materials for that testing purpose. Duromar, Inc. has no control over either the quality or condition of the substrate, or the many factors affecting the use and application of the product. Duromar, Inc. does, therefore, not accept any liability arising from loss, injury, or damage resulting from such use or the contents of this data sheet (unless there are written agreements stating otherwise). The data contained herein is liable to modification as a result of practical experience and continuous product development. This data sheet replaces and annuls all previous issues, and it is, therefore, the user's responsibility to ensure that this sheet is current prior to using the product.

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