

SAR-UW

Underwater Ceramic Putty

GENERAL DESCRIPTION

SAR-UW is an underwater curing version of **SAR** used for rebuilding areas underwater or where the component needs to be put back into underwater service before full cure. Applicable to both fresh and saltwater service.

FEATURES

- Excellent resistance to entrained solids and abrasion
- Very good chemical resistance
- Excellent temperature and thermal shock resistance
- Extended pot life
- May be applied up to thickness of 1 inch or more

PACKAGING

1 kg and 4 kg units

COVERAGE

SAR-UW is a trowel-on rebuilding compound and can be applied up to 1 inch/coat. Thicker applications can be achieved by multiple layers. Theoretical coverage at 125 mils is 2.1 sq. ft. per kg.

MIXING RATIO

2.6 parts base (B) to 1 part (A) hardener by weight
1.4 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 40 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

SAR-UW is grey in color.

TECHNICAL DATA AND INFORMATION

Basic Chemical Resistance at Room Temperature:

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

Typical Physical Properties of Cured System:

Density	1.59
% Solids	100
Flexural Strength @ 70°F	16,500 psi
Tensile Strength @ 70°F	8,500 psi
Tensile Shear @ 70°F	2,500 psi
Max. Dry Operating Temp	250°F
Operating pH Range	2.5-14.0

SURFACE PREPARATION

- Material should be applied to a firm, clean, 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.

CLEANUP

Most solvents and commonly used thinners such as MEK, acetone, xylene, 1,1,1 trichloroethane, and safety solvents such as Ensolv, etc., can be used for cleaning tools and equipment. However, as many of these materials are flammable or present other safety hazards, the user should read the MSDS for these materials before using. In no event should these materials be used to clean material from the skin, eyes or clothing.



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APPLICATION

SAR-UW 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.

- Min. Thickness/Coat (mils) 40
- Max. Thickness/Coat (mils) 1000
- Number of Coats 1
- Min. Application Temperature (°F) 50

For best results, do not apply:

- When there is oil on the surface
- To unprepared surfaces

OVERCOATING

For pinhole control and/or thicker buildup, two or more coats may be employed. **SAR-UW** 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. **Do not overcoat if used underwater.** The following table is an approximate guide to the earliest and latest times an overcoat may be applied:

SAR-UW Overcoating Window

55°F	70°F	85°F
8-48 h	4-24 h	3-12 h

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.

CURING @ 70°F

- Dry to Touch (hours) 6
- Functional Cure (hours) 72
- Full Cure (hours) 120

Q/C

The material should be visually inspected just after application and touched up where necessary. Spark testing can be performed when the material is used above water. Conventional means of Q/C cannot be performed underwater. Therefore extreme care must be used when inspecting the surface.

FORCE CURING

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

Recommended Force Cure Schedule:

- Full Cure 4 hours @ 180°F
- Functional Cure 8 hours @ 120°F

STORAGE/SHELF LIFE

Store in dry area in closed containers between 50°F and 100°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.

SAR-UW 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 EYEGLASSES 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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