Application Instructions: ARC 5

Surface Preparation

Proper surface preparation is critical to the long-term performance of ARC 5. The exact requirements vary with the severity of the application, expected service life, and initial substrate conditions.

Optimum preparation will provide a surface thoroughly cleaned of all contaminants and roughened to an angular profile between 75-125 µm (3-5 mils). This is optimally achieved by initial cleaning and degreasing; then abrasive blasting to a cleanliness of ***White Metal (Sa 3/SSPC SP5) or Near-White Metal (Sa 2 ½ / SSPC SP10)*** followed by removal of all abrasive residues. Grinding or machining to a rough surface profile, followed by rinsing with solvent is acceptable although a subsequent ***lowering in adhesion may result.***

Mixing

To facilitate mixing and application, material temperature should be between 21°-32°C (70°-90°F). Each kit contains two pre-measured components in proportion as per the correct product mix ratio. If further proportioning is required, the components should be divided according to the mix ratios:

Mix Ratio	By Weight
A : B	4 : 1

Remove Part A and Part B from the plastic pouches and place on the mixing board provided. Begin mixing with the enclosed tool using a slow figure eight pattern; periodically scraping the mixing surface and tool to ensure no unmixed residue remains on either surface. Continue until the material is completely mixed, indicated by a homogeneous color with no streaks. ARC 5 is a rapid cure system; its mixing time should be kept to a minimum, followed by immediate application.

Working Time – Minutes

	10°C	16°C	25°C	32°C	This chart defines the practical working time of ARC 5, starting from when mixing begins.
	50°F	60°F	77°F	90°F	
250 gr (0.55 lbs.)	10 min.	6 min.	4 min.	2 min.	

Application

ARC 5 is normally applied at a thickness varying between 3 mm-19 mm (⅛ inch - ¾ inch). However, it may be applied at a minimum thickness of 1 mm (40 mils). Minimum application temperature is 4°C (40°F). Using the enclosed plastic application tool or trowel, press the material into the surface profile to completely wet out the surface for proper adhesion. Once the material is placed, it may be smoothed utilizing a variety of methods. If required, ARC 5 can be machined using a carbide tool bit once the product has cured to "Light Load" as described below. Otherwise, use a diamond cutting tool or grinder. In certain applications requiring additional support, it may be advantageous to either weld expanded metal onto the surface prior to preparing the surface or to impregnate nylon reinforcing mesh into the composite while still wet.

The material may be over-coated with any of the ARC Polymer Composites. If it has cured to the point of "Light Load" described below, the surface should be roughened and rinsed with an organic solvent prior to top coating. Prior to curing to "Light Load" no surface preparation is required so long as the surface has not been contaminated.

Coverage

Thickness	Unit size	Coverage	Formulas to calculate kilograms required
3 mm (1/8 inch)	250 g (0.55 lbs.)	521 cm^2 (80 in^2)	1.6 x Area (m^2) x Average Thickness (mm) = kg
			3.8 x Area (ft^2) x Average Thickness (inch) = kg

Curing Schedule

	4°C	16°C	25°C	32°C
	40°F	60°F	77°F	90°F
Tack Free	30 min.	20 min.	10 min.	7 min.
Light Load	50 min.	35 min.	20 min.	15 min.
Full Load	75 min.	60 min.	45 min.	25 min.
Full Chemical	8 hrs.	3 hrs.	2 hrs.	1 hr.

Clean Up

Use commercial solvents (Acetone, Xylene, Alcohol, or Methyl Ethyl Ketone) to clean tools immediately after use. Once cured, the material would have to be abraded off.

Safety

Before using any products, review the appropriate Safety Data Sheet (SDS) or Safety Sheet for your area. Follow standard confined space entry and work procedures, if appropriate.

Shelf life (in unopened containers): 2 years [when stored between 10°C (50°F) and 32°C (90°F) in dry, cool, covered facility]

A.W. Chesterton Company
860 Salem Street, Groveland, MA 01834 USA

Application condition may influence the outcome of the coating. For specific guidance concerning local condition for surface preparation, please contact ARC Application Engineering at (781) 438-7000.

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