CAR 400

PRODUCT DATA SHEET

SELECTION & SPECIFICATION DATA

Generic Type	Two-component epoxy novolac powder metal filled paste
Description	CAR 400 is a solvent-free epoxy blended with atomized steel alloys and cross-linked with unique fast curing high performance amines processed from renewable resources. The chemistry employed allows for rapid return to service even at low temperatures with options of low energy forced heat curing which achieves an extremely high level of cross-linking, resulting in improved mechanical performance and chemical resistance. The product is used to repair and rebuild worn steel surfaces subjected to erosion, corrosion and chemical attack. CAR 400 can be applied from thin skim, pit filling layers to 15mm rebuilds without slumping, and in its wet state is water mist smoothable. After 30 minutes in a semi-set putty state, the product is mouldable to desired shapes and once set can be machined to the exact tolerances which may be required.
Features	CAR 400 is recommended for quick repair and rebuild of steel surfaces exposed to wear and chemical attack, i.e. impeller blades, shafts, pipes, valves and pump casings. The product is often used to smooth out weld joints in pipes, tanks and flanges, improving flow and restricting abrasion.
Colour	Metallic Grey
Finish	Smooth Machineable surface for specific requirements.
Film Build	200 microns to 15mm dry per coat, dependent on the rebuild requirements
Solid(s) Content	By Volume 100%
Theoretical Coverage Rates	80cm²/kg at 5mm Material losses during mixing, application and machining will vary and must be taken into consideration when estimating job requirements.
Dry Temp. Resistance	Continuous - Ambient Cure: 110°C (230°F) Continuous - Post Cure: Stable up to 175°C (347°F)
Limitations	If exterior exposed, it will need abrading prior to coating.
Temperature Resistance (Immersion)	Temperature performance is dependent on actual chemical exposure. Typically being an epoxy novolac resin system, CAR 400 has outstanding resistance to most inorganic acids, alkalies, salt solutions and hydrocarbon solvents and oils. Refer to the Altex Coatings Technical Department for specific conditions. **Most aqueous solutions:** 110°C
Density	2.5 g/cm³ (cured)

SUBSTRATES & SURFACE PREPARATION

General	Surfaces must be clean and dry. Employ adequate methods to remove dirt, dust, oil and all other contaminants as described in SSPC-SP 1 (AS 1627.1).
Steel	Dry abrasive blast to SSPC-SP 10 (AS 1627.4 Sa 2½) and achieve a uniform jagged blast profile of 50µm (minimum) and up to 75µm. For mild environments, power tool clean all surfaces to SSPC-SP 3 (AS 1627.2 St 3).

MIXING & THINNING

Mixing	For best results, the contents of the tin should be mixed together for approximately 4 to 5 minutes using a power mixer. DO NOT mix partial kits - Mix full kits only.
Thinning	Do NOT thin.
Pot Life	15 Minutes at 25°C and less at higher temperatures. Pot life ends when coating becomes too viscous to use.

APPLICATION EQUIPMENT GUIDELINES

Listed below are general equipment guidelines for the application of this product. Job site conditions may require modifications to these guidelines to achieve the desired results.

General	Do not attempt to install material if temperatures of material and substrate are not within the recommended ranges. The curing time and application properties of the material are severely affected by temperature changes. Do not add thinners to the system. Full cure will not be achieved and performance will be affected.
Application Tool	Using a spatula, apply product to the desired thickness. If mixed material is left in the container, it will become unusable within 15 minutes, depending on the temperature. If further build-up of coating is required, light abrasive blast or sand the cured surface to create a rough profile for improved adhesion. A reinforcing fabric such as woven glass fibre can be bedded into the CAR 400 and overcoated immediately when additional support is required. Clean equipment immediately after use with Altex Thinning Solvent #12 and rinse off in clean water.

APPLICATION CONDITIONS

Condition	Material	Surface	Ambient	Humidity
Minimum	5°C (41°F)	5°C (41°F)	5°C (41°F)	0%
Maximum	32°C (90°F)	32°C (90°F)	40°C (104°F)	100%
Optimum	24°C (75°F)	22°C (72°F)	22°C (72°F)	50%

Do not apply when the surface temperature is less than 3°C above the dew point.

CURING SCHEDULE

Surface Temp.	Dry to Handle	Chemical Exposure
5°C (41°F)	4 Hours	5 Days
10°C (50°F)	3 Hours	4 Days
20°C (68°F)	90 Minutes	36 Hours
25°C (77°F)	60 Minutes	24 Hours
35°C (95°F)	30 Minutes	18 Hours

Curing schedule is based on 50% RH.
Post curing at 100°C for 12 hours will accelerate the cure rate to full cure status. This process must be carried out in a gradual increase and subsequent decrease in temperature so as not to shock the system.

CLEANUP & SAFETY

Cleanup	Altex Thinning Solvent #12 and water

CLEANUP & SAFETY

Safety	Read and follow all caution statements on this product data sheet and on the SDS for this product. Employ normal workmanlike safety precautions. Hypersensitive persons should wear protective clothing, gloves and use protective cream on face, hands and all exposed areas.
Caution	Read and follow all caution statements on this product data sheet.

PACKAGING, HANDLING & STORAGE

Shelf Life	Part A: 12 Months minimum when stored at 25°C Part B: 24 Months minimum when stored at 25°C Shelf Life: (actual stated shelf life) when kept at recommended storage conditions and in original unopened containers. For products/components exceeding the stated shelf life, contact Technical Services for further advice.
Storage Temperature & Humidity	4 to 35°C 0 to 90%
Flash Point (Pensky Martens Closed Cup)	Part A: >93°C Part B: >93°C
Shipping Weight (Approximate)	**1kg** Parts A & B: 1kg
Storage	Store indoors and KEEP DRY

WARRANTY

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