

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.
Color	Metallic Grey
Finish	Smooth machineable surface. If exterior is exposed, it will need abrading prior to coating.
Dry Film Thickness	200µm to 15mm per coat, dependent on the rebuild requirements.
Solid(s) Content	By volume 100%
Theoretical Coverage Rates	0.08m ² /kg at 5mm Note: Material losses during mixing, application and machining will vary and must be taken into consideration when estimating job requirements.
Dry Temp. Resistance	Non-Immersion - Ambient Cure: 110°C Non-Immersion - Post Cure: Stable up to 175°C
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 StonCor Africa technical department for specific conditions. Most aqueous solutions: 110°C

SUBSTRATES & SURFACE PREPARATION

General	Remove all oil or grease from surface to be coated prior to abrasive blast, power or hand tool cleaning.
Steel	Ensure that the surface is dry and free from all contaminants. Dry abrasive blast to a near white metal finish, in accordance with ISO 8501 Sa2½ to obtain a 50 to 75 micron blast profile. For mild environments, power tool clean in accordance with ISO 8501 St3 to produce a rust-scale free surface.

CAR 400

PRODUCT DATA SHEET



PERFORMANCE DATA (TYPICAL VALUES)

Test Method	Results
Adhesion Pull-off	> 15 MPa typical
Consistency	Paste, 15mm – no sag
Cured Density	2.5 g/cm ³
Mix Ratio By Weight Part A : Part B	4:1
Post Cure Conditions	40°C – 16 Hours 100°C – 12 Hours
Time to set at 25°C	Putty consistency: 30 minutes Light machining: 1.5 hours Full cure: 24 hours

*Typical physical properties at 25°C

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. Splitting of kits is advised against.
Thinning	Do not thin.
Ratio	Mix Ratio Part A:Part B By Weight: 4:1 By Volume: 2.3:1 1kg kit: Part A: 0.8kg (0.291 litre) Part B: 0.2kg (0.126 litre)
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 Brush Cleaner and rinse off in clean water. 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.

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

CLEANUP & SAFETY

Cleanup | Brush Cleaner and water

Safety | Read and follow all caution statements on this product data sheet and on the MSDS for this product. Employ normal workmanlike safety precautions. Use adequate ventilation. Keep container closed when not in use.

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.**

Shipping Weight (Approximate) | **1kg**
Parts A & B: 1kg
Brush Cleaner: 4.6kg

Storage Temperature & Humidity | 4 to 35°C
0 to 90%

Flash Point (Pensky Martens Closed Cup) | Part A: >93°C
Part B: >93°C
Brush Cleaner: 22°C

Storage | Store indoors

CAR 400

PRODUCT DATA SHEET



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