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Technical Bulletin

REDBAC High Performance Grout - K-009

Description:

REDBAC High Performance Grout is a 2 component, 100 % solids, BGE-free epoxy resin system specifically designed for conditions requiring higher mechanical strength and higher temperature stability than standard epoxy grout provides. REDBAC High Performance Grout is resistant to water and most fuels, oils, acids, and alkalis.

Intended Use:

- Very high compressive strength
- Very high service temperature
- Very low water absorption
- Very high flexural strength

Application Guidelines:

The working time (the time you have before it sets) of High Performance Grout will vary according to the air temperature. The average working time at 72 °F (22 °C) will be 30 minutes. In cooler weather you will have more time to pour material and in hotter weather you will have less time.

The cure time (the time before the grout is strong enough for use) will also depend on the air temperature and the temperature of the floor and machinery being grouted. The average cure time from the last pour to machinery start-up is 24 hours at 70 °F (21 °C). In cool weather, the grout will cure and develop strength more slowly than in hot weather. Remember the temperature of the foundation should be taken into account along with the air temperature when figuring the cure time needed.

Handling Properties:

SPECIFIC GRAVITY, g/cm^3	1.7		ASTM D 792
MIXED VISCOSITY, cP or mPa.s	13,000		ASTM D 2196
WORKING TIME, min	30		
GEL TIME, min	40-50		ASTM D 2471
MAXIMUM DEPTH OF POUR, in. (cm)	0.5	(1.27)	

Physical Properties:

COMPRESSIVE STRENGTH, psi (MPa)	19,000	(131)	ASTM D 695
COMPRESSIVE STRENGTH, psi (MPa) (after 30 day immersion in water @ 72 °F or 22 °C)	19,000	(131)	ASTM D 695
TENSILE STRENGTH, psi (MPa)	4,500	(31)	ASTM D 638
FLEXURAL STRENGTH, psi (MPa)	9,200	(63)	ASTM D 790
HEAT DISTORTION TEMPERATURE, °F (°C)	266	(130)	ASTM D 648
MAXIMUM CONTINUOUS SERVICE TEMPERATURE, °F (°C) (for non load-bearing applications)	325	(163)	
HARDNESS, Shore D	90		ASTM D 2240
WATER ABSORPTION (30 days @ 72 °F or 22 °C), %	0.23		ASTM D 570
CREEP (24 hours @ 600 psi or 4 MPa load @ 150 °F (65.5°C), In./in. or cm/cm	1.62 x 10^{-3}		ASTM C 1181

Surface Preparation:

CONCRETE PREPARATION: Remove all oil, grease, or contaminated concrete. Chip the surface down to sound aggregate. The concrete must be **dry** and have no water in the anchor bolt holes. Acid etching surface preparation procedures may result in poor bond and should be avoided. Do not prime or seal concrete surfaces.

FORMING: Standard wood or metal forming may be used. The forms should be protected with heavy coats of paste wax, grease, or form release agent. Wrapping the forms with heavy plastic is acceptable. The forms must be caulked and sealed to a liquid-tight condition.

When placing forms for grouting, it is absolutely necessary that the top of the forms be at least half way up the sides of the base plate or machine base. Placing the grout just to the bottom of the base plate will result in an improper grout job. If the forms cannot be placed half way up the side of the machine base, the minimum distance is 3/4 inch (1.9 cm) above the bottom of the machine base.

The forms should be placed between 2 and 6 inches (5.08-15.24 cm) away from the perimeter of the machine base to allow for the air to escape and to provide for a grout shoulder around the base plate.

PREPARATION OF METAL SURFACES: Base plates or sole plates to be grouted should be sand blasted to a "white metal" condition. If it is impossible to grout within 24 hours of sand blasting, the surfaces should be primed with a high-quality primer. Do not use porch and deck enamel or red-lead primer.

Mixing:

Two component grouts (Resin & Hardener) - Open both containers and pour the entire contents of the small can (hardener) into the large container (resin). Mix with mixing paddle in a low speed drill until a uniform color appears (3-4 minutes). DO NOT ADD ANY WATER.

Application:

Working time/pouring time will depend on grout temperature and ambient temperature. The average working time, at 72 °F (22 °C) is 20-25 minutes. Pouring time and viscosity decrease as temperature increases. Care should be taken to insure that the entire kit is poured before the working time elapses. In other words, do not mix more than you can pour during the working time.

Always sweep (pour) from one side of the base toward the other to eliminate entrapped air. The storage temperature of the unmixed kits of REDBAC will greatly affect both the ease of pouring and the cure time. For best results, REDBAC kits should be stored in a warm room for at least 24 hours before use.

During cold weather (below 50 °F), it is important that the foundation be enclosed and maintained above 50 °F. The cure time of the grout will be longer during cold weather and it is important that the grouted area be kept warm (above 50 °F) until the grout has cured completely. Do not pour if the grout is below 50 °F. Conversely in hot weather, do not mix and pour in direct sunlight. Cover or “tent” operations to prevent grout from setting up too fast, which usually leads to excessive shrinkage and/or cracking.

Uncured REDBAC grout can be removed from tools and equipment with non-flammable Copps Enviro Kleen, isopropyl alcohol, xylol or ketones.

Packaging:

K-009-21: 2 Gallon = 345 $in.^3$ = 5,653 cm^3
K-009-47: 5 Gallon = 776 $in.^3$ = 12,716 cm^3

SAFETY PRECAUTIONS

Avoid breathing of vapors. Forced local exhaust is recommended to effectively minimize exposure. NIOSH approved, organic vapor respirators and forced exhaust are recommended in confined areas, or when conditions (such as heated polymers, sanding) may cause high vapor concentrations. **DO NOT WELD ON, BURN OR TORCH ON OR NEAR, ANY EPOXY MATERIAL. HAZARDOUS VAPOR IS RELEASED WHEN AN EPOXY IS BURNED.** Avoid skin or eye contact. Wash skin with soap and water if contact occurs. If eye contact occurs flush with water for 15 minutes and obtain medical attention. Read and understand all cautions on can labels and safety data sheets before using this material.

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