

TECHNICAL BULLETIN – M 536 D

GLYSIL 90 Acid Resistant Mortar

Product Description

GLYSIL 90 Acid Resistant Mortar is a litharge mortar designed for use in sulfuric acid/oxidizing environments at temperatures exceeding the limits of most organic mortars. GLYSIL 90's strong waterproof bond gives it an advantage over silicate mortars that can "wash out" of brick joints in certain services. The litharge (lead oxide) reacts with sulfuric acid to form lead sulfate which is insoluble in sulfuric acid at concentrations less than 50%.

GLYSIL 90 Mortar is a two-part system made up of GLYSIL 90 Powder and GLYSIL 90 Solution. The powder is carefully selected litharge plus other ingredients to control working life and set time.

Application

A standard unit of GLYSIL 90 Mortar consists of one (1) 50 lb Pail of solution and five (5) 50 lb bags of powder. GLYSIL 90 solution can also be shipped in 500 lb. drums. Five parts by weight of the GLYSIL 90 Powder are added to one part of the GLYSIL 90 Solution and mixed thoroughly. The working life is approximately 20-30 minutes and can be extended by mixing the mortar frequently in the mortar pans. Initial set time is approximately 1-2 hours. Mortar joints should be a nominal 1/8" thick. Mortar that has begun to set should not be tempered by adding more solution. Mix small batches to match brick layer's pace.

GLYSIL 90 Mortar is handled in the same manner as ordinary building cement. It never should be applied to wet or frozen brick, or to acid-soaked surfaces. Joints between brick should be a nominal 1/8" wide. For corrosive services, the use of thin joints is more important than straight mortar lines. When working at temperatures below 50°F, the hardening action may be hastened by heating the brick and GLYSIL 90 Mortar components to about 80°F prior to installation. Maintain the temperature in the vessel at a minimum of 50°F until the mortar has set.

Safety

GLYSIL 90 Powder contains lead oxide and therefore, must be handled with care. All mixing must be done using dust collection and filtering equipment. Workers mixing the product should wear NIOSH approved dust respirators and rubber gloves. Brick layers should have good air exhaust ventilation to maintain airborne lead levels below the OSHA PEL. Material Safety Data Sheets are readily available from Knight LLC and should be read by all workers exposed to GLYSIL 90 Mortar.

Typical Physical Data

Bulk Density	170 lb/ft ³	2,723 kg/m ³
Compression Strength	1,800 psi	13 MPa
Coefficient Thermal Expansion	1.15*10 ⁻⁵ in/in/°F	2.0*10 ⁻⁵ mm/mm/°C
Tensile Strength	200 psi	1.4 MPa
Water Absorption	3 %	3 %
Apparent Porosity	7%	7%
Bond Strength	150 psi	1.0 MPa
Poisson's Ratio	0.18	0.18
Young's Modulus	2.3*10 ⁶ psi	16,100 MPa
Color	Tan	Tan

The Physical Data derived by using ASTM test methods: C-905 Bulk Density, C-579 Compressive Strength, E-228 CTE, C-307 Tensile Strength and C-143 Water Absorption.

Note

The information contained in this bulletin is believed to be accurate and reliable but is not to be construed as implying any warranty or guarantee of performance. Data are subject to reasonable variations and should not be used for specification purposes.

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