

CE-204
12/13 Supersedes 01/99

HES[®] CEMENT

DESCRIPTION

HES Cement is a single-component, acid-resistant, halogen-free, chemically hardening, modified silicate cement designed for use as a bonding mortar for chemically-resistant brickwork construction. HES Cement is not a hydraulic cement and does not contain any Portland or calcium aluminate cements. It conforms to ASTM C-466. **Consult Corrosion Engineering specification [CES-358](#) for complete installation details.**

AREAS OF USE

HES Cement is typically used in the construction of acid-resistant brick linings in acid towers, tanks and process vessels found in chemical process industries. When mixed with water, it produces an acid-resistant mortar having outstanding features. It withstands almost all strengths of acid, except acid fluorides or hydrofluoric acid. It is resistant up to a pH of 9.

OUTSTANDING FEATURES

- Single component - requires only the addition of potable water.
- Easy to use - handles and trowels easily, with only water needed for mixing and cleaning tools.
- Non-corrosive to metals - can be used in systems with metals or alloy equipment. Does not corrode or pit lead or chrome-nickel alloys adjacent to the mortar.
- Freedom from fluorides - eliminates the concern for the release of hydrofluoric acid from the mortar either during curing or when equipment is put into operation.
- Resistant to high temperature - resists concentrated acids except acid fluorides and hydrofluoric acid up to a temperature of 1650°F (900°C).
- Does not promote sulfation-hydration or crystal growth reactions.
- HES Cement is not damaged in transit by freezing temperatures.

TYPICAL PHYSICAL PROPERTIES

PROPERTY	HES Cement
Color	White
Density (ASTM C138)	130 lbs./cu. ft. (2083 kg/m ³)
Work life/ Set time @ 70°F(ASTM C308)	25-35 minutes / 6-8 hours
Compressive strength (ASTM C579) 7 days / 28 days	>1,800 / >3,250 psi (12.4 / 22.4 MPa)
Tensile strength (ASTM C307)	>500 psi (3.4 MPa)
Flexural strength (ASTM C580)	>830 psi (5.7 MPa)
Bond strength to brick (Pull blocks)	>325-360 psi (2.2-2.5 MPa)
Maximum service temperature	1,650°F (900°C)

ESTIMATING/PACKAGING THEORETICAL QUANTITIES – NO OVERAGE ALLOWANCE

PRODUCT	CODE	PACKAGING	MIX RATIO*
HES Cement	21927	55lb (25.0 kg) bag	6.5:1.0 (Powder: Water)*. HES Mortar must be mixed thoroughly to obtain correct wetting properties.

*NOTE: Mix ratios vary due to ambient air temperatures and the handling preferences of individual bricklayers. The above information is provided as a general guide only. For usage rates for specific masonry units, consult Corrosion Engineering estimating guide CE-145.

SAFETY PRECAUTIONS / DISCLAIMER

Mixes and applications of this product present a number of hazards. Read and follow the hazard information, precautions and first aid directions on the individual product labels and [material safety data sheets](#) before using. While all statements, technical information, and recommendations contained herein are based on information our company believes to be reliable, nothing contained herein shall constitute any warranty, express or implied, with respect to the products and/or services described herein and any such warranties are expressly disclaimed. We recommend that the prospective purchaser or user independently determine the suitability of our product(s) for their intended use. No statement, information or recommendation with respect to our products, whether contained herein or otherwise communicated, shall be legally binding upon us unless expressly set forth in a written agreement between us and the purchaser/user.



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