

SELECTION & SPECIFICATION DATA

Type	Potassium silicate brick mortar
Description	HB Mortar is a 2-component, halogen-free high performance potassium silicate brick mortar used to bond and bed acid brick in chemical environments.
Uses	<ul style="list-style-type: none"> • Butter industrial ceramics such as acid brick • Brick linings in contact plant sulfuric acid manufacturing process vessels • Brick linings in industrial and thermal power plant chimneys • Brick linings in demanding process vessel applications such as pressure leaching autoclaves
Features	<ul style="list-style-type: none"> • Unique catalyst system for enhanced performance • Creamy, buttery consistency • High temperature resistance • Resists strong oxidizing acids including nitric, chromic and sulfuric • Low shrinkage • High bond strength • No acid washing required • Fluoride-, sodium- and calcium-free, eliminates potential sulfation-hydration reactions • Improved water wash-out and steam resistance when compared to other potassium silicate mortars
Limitations	<ul style="list-style-type: none"> • Not for use beyond its chemical resistance or thermal capabilities. Do not use in hydrofluoric acid service or caustic environments. Consult Armor with specific questions.

INSTALLATION GUIDANCE

Reference Specifications	CES-358 Armor Specification for Brick Mortar Mixing	
Installation Conditions	HB Mortar is formulated for ideal handling at 70°F (21°C). Do not use if temperature of mortar or components are below 50°F (10°C). If temperatures are below 50°F (10°C), condition components and substrate before application.	
Ratio	1 part solution: 2.5 parts powder by weight. Powder loading may be adjusted slightly to suit individual bricklayer handling preferences.	
Mixing	Pour measured quantity of solution into clean, dry mixing vessel. Slowly add measured quantity of powder to solution and mix thoroughly until fully blended.	
Work Life	1-2 hours at 50°F (10°C) 30-60 minutes at 70°F (21°C) 15-30 minutes at 90°F (32°C)	
Cleanup	Water	
<u>CURE TIME</u>		
Temperature	Initial Set	Full Cure
70°F (21°C)	5-8 hours	72-96 hours
<u>SAFETY</u>		
Safety	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 safety data sheets before using.	
Ventilation	Provide thorough air circulation during and after application until the material has cured when used in enclosed areas.	



PACKAGING, ESTIMATING & HANDLING

Product	Code	Packaging
HB Solution	19573	44 lb (20 kg) pail
	19574	600 lb (272 kg) drum
HB Powder	19575	55 lb (25 kg) bag
A 1.34 cubic foot (154 lb or 70 kg) unit consists of 1 x 44 lb (20 kg) pail of solution and 2 x 55 lb (25 kg) bags of powder.		
Theoretical Coverage	Consumption will vary based on brick size and joint width. Consult estimating guide CES-145.	
Storage & Shelf Life	Maintain products in original packaging and sealed until ready for use. Protect HB Solution from freezing. Estimated shelf life for HB Powder and Solution is 18-24 months when stored in a dry area at 70°F (21°C). Actual shelf life may vary with storage conditions. If there is any question with respect to the quality of the components, check reactivity prior to use. For assistance consult with Armor.	

TYPICAL PHYSICAL PROPERTIES

Property	Typical Value
Color	White
Density, ASTM C138	115 lb/ft ³ (1,843 kg/m ³)
Compressive strength, 28-day, ASTM C579	>5,400 psi (37 MPa)
Tensile strength, 7-day, ASTM C307	>385 psi (2.7 MPa)
Flexural strength, ASTM C453	>1,500 psi (10.3 MPa)
Bond strength to brick (pull blocks)	>300 psi (2.1 MPa)
Maximum service temperature	1,650°F (900°C)
Temperature limitations will vary with chemical exposure. Consult Armor Technical Service for guidance.	

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