ChemMasters

Installation Guidelines

PolyWeld is a polyvinyl acetate emulsion modified for use as a bonding agent for concrete and plaster. It dries in a thin flexible film. It is non-toxic, vermin proof, and unaffected by the alkalinity of gypsum, lime and cement. Polyweld is resistant to most alkalies/acids and will not burn or deteriorate. After applied and dry, Polyweld is not affected through the temperature range of -35° to +300° F.

1.0 General

1.1 Scope
This specification covers the performance characteristics and application procedures for providing a polyvinyl acetate emulsion modified for use as a bonding agent for concrete and plaster. It dries in a thin flexible film.

1.2 Material Description
The material shall be a polyvinyl acetate emulsion modified for use as a bonding agent for concrete and plaster. It should dry in a thin flexible film that is nontoxic, vermin proof, and unaffected by the alkalinity of gypsum, lime and cement. The material should be resistant to most alkalies/acids, be V.O.C. compliant, non-flammable, and able to be applied over either damp or dry surfaces.

1.3 Typical Applications
A. Interior, horizontal and vertical surfaces not subject to constant moisture or running water
B. Bond coat for dry or damp substrates
C. Finish or base coat plasters, concrete and stucco to surfaces of poured concrete, concrete block, stone, brick.
D. Unglazed clay tile, metal, marble, plaster and over silicone treated surfaces.

1.4 Limitations
A. Do not use over water soluble paints or rusted surfaces.
B. Do not apply when the surface or air temperature is, or is expected to go below 40° F/4° C. Do not apply on frozen or frost filled surfaces.
C. Do not use in areas that are subject to constant moisture or running water. Cretelox, acrylic latex, is recommended for those situations or for exterior use.
D. Do not dilute with solvent or water.
E. All information given is for normal conditions ((65-75 °F). Materials will behave differently at other temperatures.

1.5 Quality Assurance

The repair contractor shall have experience and proficiency specific to the repair type and shall be approved by the engineer and the material supplier. The material supplier shall provide job service as required to assure proper handling and installation of materials. The field representative shall instruct as needed to assure that handling, mixing, placing and finishing of materials are in accordance with specifications.

1.6 Delivery, Storage and Handling
The product shall be delivered in the original, unopened containers. It shall be labeled with the manufacturer's name, product name and lot number. Materials should be stored at the job site under dry conditions and at a temperature of 40° F., (4° C.) to 90° F. (32° C.).

1.7 Environmental Requirements
All materials used for the repair work shall be VOC compliant. The manufacturer shall supply the appropriate material safety data sheets upon request.

1.8 Site Conditions
A. Coverage is dependent upon surface texture and porosity.

2.0 Materials

2.1 Approved Materials and Manufacturers

2.1.1 Product Standard
PolyWeld, as manufactured by ChemMasters, 300 Edwards Street, Madison, Ohio, 44057-3112, 1-800-486-7866, is considered to conform to the requirements of this specification and shall be the bonding agent or admixture used. Polyweld is a polyvinyl acetate emulsion modified for use as a bonding agent for concrete and plaster. It dries in a thin flexible film. It is non-toxic, vermin proof, and unaffected by the alkalinity of gypsum, lime and cement. Polyweld is resistant to most alkalies/acids and will not burn or deteriorate. After applied and dry, Polyweld is not affected through the temperature range of -35° to +300° F.

2.1.2 Substitutions
No submittals for substitutions will be accepted after the bid date. All submittals must be made in writing to the engineer with supporting technical data sheets and test data showing complete equivalent performance.

2.2 Packaging/Coverage/Estimating

2.2.1 Estimating Guide
Surface texture, porosity and condition of the substrate will all affect the coverage rate.

A. Concrete 200-300 Ft.^{2}/gal 5-7 M^2/L
B. Plaster 300-400 Ft.^{2}/gal 7-10 M^2/L

2.3 Storage:
Keep from freezing. Product may coagulate. Prolonged freezing may damage material. If frozen, do not force thaw by heating. Thaw at room temperature. Remix thoroughly to original consistency. If Polyweld can be stirred after thawing, bonding qualities have not been impaired.

2.4 Engineering Properties

2.4.1 PolyWeld PVA Bonding Agent for Interior Use
AVG PSI AVG PSI REMARKS, AVG PSI REMARKS
A. Neat cement: 564 560 failed in cement not tested
B. Ottawa sand mortar (1:3): 437 469 failed in mortar not tested
C. River sand mortar (1:3): 510 485 failed in mortar not tested
D. Perlite plaster (1:3): 140 146 failed in plaster, 195 failed in plaster
E. Finish plaster: 237 243 failed in plaster, 132 failed in plaster
F. Brown coat (gypsum) (1:3): 85 87 failed in plaster, 172 failed in plaster

2.5 Accessory Materials as manufactured by ChemMasters, 300 Edwards Street, Madison, Ohio, 44057-3112, 1-800-486-7866, is considered to conform to the requirements of this specification.

3.0 Execution

3.1 References
A. Polyweld tests stronger than the material it bonds. Bowser Morner Testing Laboratory, Dayton, Ohio checked the effectiveness and suitability of Polyweld as a bonding agent, applying various types of plaster on smooth wall and ceiling surfaces. In each case, the plaster failed, indicating higher tensile strength of the bond.
B. Approved by the Board of Standards and Appeals (as a bonding agent to bond plaster to concrete) for use in New York City under calendar number: 176-61SM.
C. Military Specification MIL-B-19235 (Docks) Bonding Compound, Concrete, dated, 12 December 1955; Issued by U.S. Navy -Bureau of Yards and Docks.
D. Refer to ChemMasters MSDS and Technical Data Sheets

3.2 Surface Preparation:
A. The bond can be no better than the condition of the surface to which the material is applied. Remove all loose, spalled or disintegrated concrete, masonry or mortar. Remove any dirt, oil, grease, wax, dust, efflorescence, surface laitance, paint or other foreign material. Form release agents or membrane curing compounds must also be removed.

B. Areas to be patched or coated should be blown clean with air pressure or flushed with water. In hot dry weather, surfaces may be cooled by fog spraying with water. Do not leave standing water.

3.3 Application:
A. Apply to structurally sound surface. If surface structure is questionable, apply to test area. Do not mix more material than can be placed in 20 minutes.
Apply one coat as thick as a coat of paint by brush, roller, or low pressure spray.
B. Do not thin. Allow to dry until tacky to touch (15 to 30 minutes).
C. Place new concrete of 1/2" minimum thickness, or trowel on new plaster. Keep new concrete surface damp during curing process.

3.4 Curing:
A. Toppings should be cured using standard industry practices. Do not cure using standing water. If repairs are subjected to very hot, dry or windy conditions, protect against rapid dry out by covering with wet burlap or fog spraying with potable water.
B. It is necessary for the Polyweld to have at least 3 days of normal drying conditions in the curing cycle.
C. If used in damp or confined areas, supplemental ventilation may have to be provided to facilitate drying.