



TECHNICAL DATA SHEET

HEY'DI K-11

Cement Based, Crystalline Waterproofing System

CEMENTITIOUS AND REACTIVE WATERPROOFING 07160
THERMAL AND MOISTURE PROTECTION

TAMMS INDUSTRIES
MARCH 2002 (Replaces 1/00)

CEMENTITIOUS AND REACTIVE WATERPROOFING 07160
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- DESCRIPTION:** HEY'DI K-11 is a breathable, two part, polymer modified, cement based system for waterproofing concrete and masonry. HEY'DI K-11 has a texture and consistency similar to concrete and may be brush or spray applied. HEY'DI K-11 becomes an integral part of the wall and waterproofs the negative or positive side through a crystallization process. HEY'DI SB is the bonding agent used with HEY'DI K-11. It improves adhesion, flexibility and the permeability resistance of the system.
- USES:** HEY'DI K-11 is applied to below or above grade surfaces (interior or exterior) to protect against hydrostatic water pressure. HEY'DI K-11 can also be used between horizontal structural slabs. Typical applications include foundations, basements, tunnels, dams, water reservoirs, manholes, sewage and water treatment plants, and any other underground structures. HEY'DI K-11 effectively waterproofs concrete, medium/heavy weight concrete block, brick and shotcrete. Horizontal surfaces treated with HEY'DI K-11 and subject to traffic must be covered with a protective topping. HEY'DI K-11 must be allowed to cure before applying a finishing floor system. Contact Tamms Technical Service Center for further information.
- COMPLIANCE:** HEY'DI K-11 is approved by NSF (ANSI STD 60/61) for use with potable water. It is also approved by the USDA for food plants.
- COMPOSITION AND MATERIAL:** HEY'DI K-11 and HEY'DI SB are proprietary formulations of cements and chemical additives designed to penetrate the capillaries of the substrate and form a crystalline structure. They contain no added chloride or sodium. They are inorganic, non toxic and resist chemical attack in a similar way to portland cement.
- COLORS:** HEY'DI K-11 is available in gray or white. HEY'DI K-11 White is used to enhance the aesthetic appearance of the waterproofing system and is used as a topcoat for HEY'DI K-11 Gray.
- SURFACE PREPARATION:** The surface must be structurally sound, clean and free of dirt, oil and other contaminants including curing compounds, form release agents, old coatings, paint and efflorescence. New concrete and masonry must be cured a minimum of 7 days. All concrete laitance must also be removed. Provide an absorptive surface on all substrates including precast and formed concrete. The surface must have an open capillary system for adhesion and for optimum crystalline growth. Remove form marks and other protrusions. Concrete honeycombs, cavities, joints, cracks, voids, tie holes and other defects must be opened and routed to sound material. Follow the recommended methods for repairing defects as suggested in section 10. No active water leaks should be present at the time of application of HEY'DI K-11. **Use the HEY'DI POWDER X SYSTEM to seal active leaks.**
- MIXING INSTRUCTIONS:** For Positive Side Waterproofing, blend a 1:5 ratio of HEY'DI SB Bonding Additive with potable water to make the "mixing liquid." For Negative Side Waterproofing, blend a 1:3 ratio of HEY'DI SB Bonding Additive with potable water to make the "mixing liquid."
 - To mix a 50 pound bag of HEY'DI K-11, pour approximately one gallon of mixing liquid into a clean container and begin slow speed power mixing. Slowly add HEY'DI K-11.
 - Gradually add more mixing liquid to bring the mixture to the consistency of a completely blended slurry. 50 pounds of HEY'DI K-11 will require a 1½ - 2 gallons of mixing liquid.
 - When mixing is completed, do not add additional mixing liquid and do not retemper the mix.
- APPLICATION TECHNIQUES:** Dampen the surface with potable water prior to application. There should be no running or standing water present. A minimum of two coats of HEY'DI K-11 Gray is applied to a surface for effective waterproofing. Each coat is applied at 2.25 lbs/sq. yd. which yields approximately 30 mils thickness per coat.

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Material Properties @ 75° F		
Test Method	Criterion	Results
ASTM C952 - Adhesion, PSI	75 Degrees F	175
ASTM C190 - Tensile Strength, PSI	100% RH	332
	50% RH	118
ASTM C580 - Flexural Strength, PSI	75 Degrees F	472
CRD-48-73 - Permeability, cm/sec	2 coats	5.2 x 10 ⁻¹⁰
Tested at water heads of 461.6 ft (200 psi)		
Values are typical and not necessarily referenced to create specifications.		

8.1 Brush Application: Surface must be damp at the time of application. Load bristles of a cement masons brush with HEY'DI K-11 Gray. Work the slurry into the surface to fill pores and voids. The final brush strokes should be in one direction to produce an even texture and finish. Apply at a rate of 2.25 lbs./sq. yd. Allow HEY'DI K-11 Gray to cure for 24 hours before applying a second coat. After 24 hours, dampen the first coat and apply a second coat of HEY'DI K-11. Gray must be used as the second coat when waterproofing the negative side and when waterproofing the positive side in critical applications. HEY'DI K-11 White may be used as a finish coat to enhance the aesthetic appearance. Apply the second coat in the same manner as the first coat except that the finish brush strokes should be at right angles to those of the first coat. Apply the second coat at a rate of 2.25 pounds per square yard.

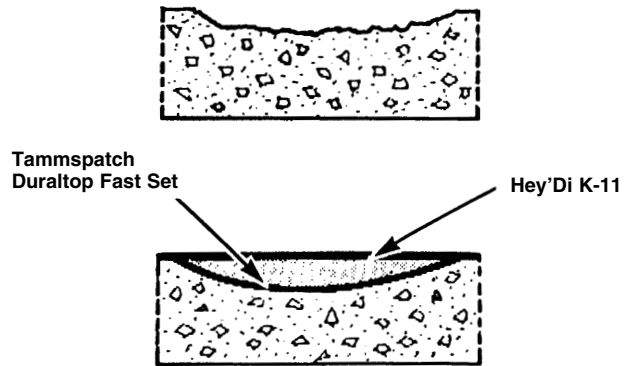
8.2 Spray Application: Use air operated spray equipment capable of spraying cementitious materials. Use a 1/8" (0.32 cm) nozzle. **On concrete surfaces,** HEY'DI K-11 is to be sprayed in two coats. The first coat should be light and followed immediately by a second heavier coat. Total coverage of the two coats should be 4.5 pounds per square yard. **On concrete masonry surfaces,** apply a first coat at 2.25 pounds per square yard. Before initial set, back brush the surface with a mason's brush or broom to fill voids and ensure uniform coverage. Allow the first coat to cure for 24 hours. Dampen the surface and spray on a second coat at 2.25 pounds per square yard in the same manner as the first coat. Back brushing the second coat is not required.

8.3 Broadcast & Trowel for Horizontal Applications: When the concrete starts to reach initial set (no bleed water visible), dry sprinkle HEY'DI K-11 at the rate of 4-5 pounds per square yard on the concrete surface. Power trowel the surface until HEY'DI K-11 coverage is uniform. Consult Tamms Technical Service for complete details.

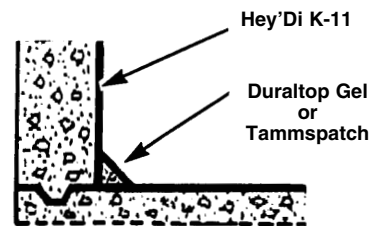
9. **COVERAGE:** Coverage rates are approximate and will depend on the texture and porosity of the substrate. Under normal waterproofing conditions, one 50 pound bag of HEY'DI K-11 will cover approximately 100 square feet in two coats.

10. SPECIAL APPLICATIONS:

10.1 Patches: After proper surface preparation of the areas to be patched, apply HEY'DI K-11 Gray in two coats of 2.25 lbs/sq. yd. each to the areas which require patching. After the second coat has cured for 24 hours, apply TAMMSPATCH or DURALTOP FASTSET to the defective area per instructions in their respective technical data sheet. Allow patches to cure for 24 hours. Apply HEY'DI K-11 Gray per the above application instructions over the entire area to be waterproofed including the patches. For optimum waterproofing, patched areas will have a total of 4.5 lbs/sq.yd. of HEY'DI K-11 Gray under the patch and another total of 4.5 lbs/sq.yd. of HEY'DI K-11 Gray over the entire surface including the patched areas.

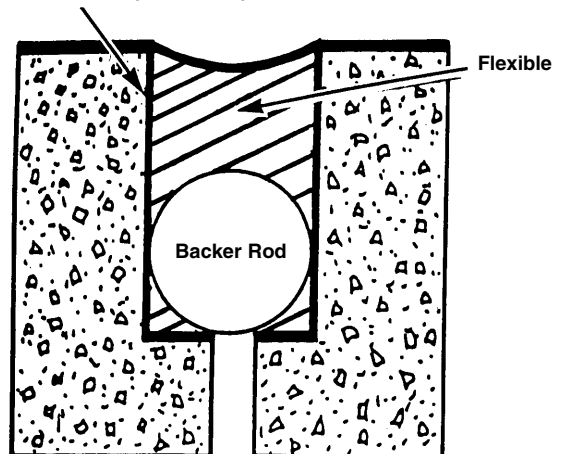


10.2 Coved or Canted Applications: Apply 2 coats of HEY'DI K-11 Gray to the area to be coved. After the second coat has cured for 24 hours, use DURALTOP GEL or TAMMSPATCH to form the required cove. See Technical Data Sheet for detailed instructions. Waterproof over coves or canting with two coats of HEY'DI K-11 Gray (2.25 lbs/sq. yd per coat).

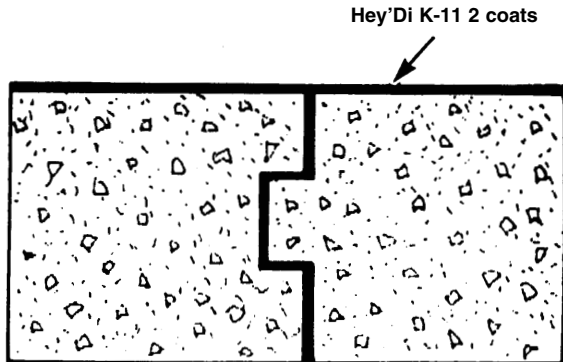


10.3 Cracks or Expansion Joints: Cut out cracks to a minimum of 1" by 1" depth and width. Apply 2 coats of HEY'DI K-11 Gray into sides and bottom of crack or joint. Cure the second coat for a minimum of 4 days and then install a flexible, waterproof joint sealant. The joint sealant may be filled approximately 1/4" to 1/2" from the top of the surface. Apply a bond breaker tape over the sealant and fill the remaining joint area flush to the surface with TAMMSPATCH. Apply 2 coats of HEY'DI K-11 Gray over the entire area to be waterproofed including the patched cracks and joints.

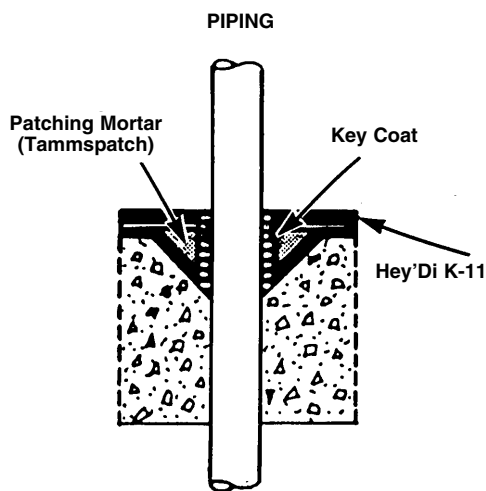
Expansion Joint Hey'Di K-11 System



10.4 New Construction Joints: Brush apply 2 coats of HEY'DI K-11 Gray onto the concrete surface to be joined. After second coat has cured 24 hours, pour the new concrete against the HEY'DI K-11 Gray surface to form the bond and continuous membrane.



10.5 Through the Wall Penetrations: Cut around the pipe, electrical conduit or other embedded material a minimum of 1" deep and 1" wide at the surface. Clean the pipe or conduit thoroughly. Mix HEY'DI SB Bonding additive with potable water at a 1:1 ratio. Dry blend cement and sand at a 1:1 ratio. Combine mixtures and apply the slurry to the pipe or conduit. Allow 24 hours for curing. Dampen area and apply 2 coats of HEY'DI K-11 Gray allowing a 24 hour cure time between coats. Fill the remaining cavity with TAMMSPATCH. After allowing the TAMMSPATCH to cure for 24 hours, apply 2 more coats of HEY'DI K-11 Gray over the entire area to be waterproofed.



11.CLEAN-UP INSTRUCTIONS: Clean mixing and application equipment with water immediately after use. Clean splatter or spills with water before material sets. HEY'DI K-11 Gray is a cementitious product containing a polymer bonding additive, and if allowed to dry on the surface, removal becomes extremely difficult.

12.CAUTIONS: Do not retemper HEY'DI K-11. Do not apply to frozen or frost filled surfaces or when temperature is below or expected to fall below 40°F (4.4°C) within 48 hours. Do not apply HEY'DI K-11 at temperatures above 90°F (32.2°C), unless the surface has been fully saturated with water at the time the application begins. HEY'DI K-11 is not designed as a wearing surface. Apply a protective topcoat before subjecting it to traffic. Do not fill open cisterns, tanks, pools, etc. with water for at least 7 days. Ensure that adequate ventilation is available during the application and the full curing period when using HEY'DI K-11 containing HEY'DI SB Bonding Additive in enclosed tanks or reservoirs. Allow minimum 7 days drying time before backfilling unless protection board is used. Allow 7 days cure at 75°F before covering or before the application of waterbased decorative coatings. Do not apply lime contained paints over HEY'DI K-11. Allow minimum 7 days cure before exposing HEY'DI K-11 to water pressure, or any contact with water. When HEY'DI is used in areas exposed to chemicals or high sulfate containing soils, consult technical service for specific recommendations. **Apply a test patch to evaluate performance and appearance on concrete or block substrates which have been subjected to contamination, efflorescence or chemical attack.**

13.ENVIRONMENTAL AND SAFETY PRECAUTIONS: Industrial Use Only. HEY'DI K-11 POWDER contains portland cement which is alkaline on contact with water. Do not breathe dust. May cause delayed lung injury (Silicosis). IARC reports Crystalline silica may cause cancer in humans. Irritating to eyes and skin. Avoid splashing into eyes or contact with skin. In case of eye contact, flood eyes repeatedly with potable water and call a physician. **DO NOT RUB EYES.** Wash skin thoroughly after handling and before smoking or eating. Use adequate ventilation. Bonding agent contains a polymer. Avoid breathing vapors or mist. Irritating to eyes and skin. Avoid splashing into eyes or contact with skin. In case of eye contact, flood eyes repeatedly with potable water and call a physician. **DO NOT RUB EYES.** Wash skin thoroughly after handling and before smoking or eating. Use adequate ventilation. **KEEP AWAY FROM CHILDREN AND ANIMALS.** Consult Material Safety Data Sheet for further information. **EMERGENCY RESPONSE NUMBERS ARE (800) 862-2667 TAMMS OR (800) 424-9300 CHEMTREC.**

14.PACKAGING: HEY'DI K-11 is packaged in 50 pound polylined bags. HEY'DI SB Bonding Agent is available in 5 gallon pails or cases of 6 - 1 gallon pails. Shelf life is one year in protected storage. Protect liquid from freezing.

15. **TECHNICAL SERVICE:** For application procedures or surface conditions not specified above, please contact:

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