

PRODUCT SPECIFICATION 2-2
“ANTI-HYDRO®”

Admixture for Integrally Waterproofing Stuccos

Rev. 06/15



ANTI-HYDRO INTERNATIONAL, INC.

Concrete and Masonry Products and Problem Solving Worldwide Since 1904

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DESCRIPTION:

“ANTI-HYDRO®” is extensively recommended and successfully used since 1904 as an integral waterproofing and durability admixture for exterior cement stuccos and interior cement plasters. Addition of “ANTI-HYDRO®” in cement stucco and plaster improves workability, strength, hardness, and durability, and also provides protection against weathering and freeze-thaw damages. “ANTI-HYDRO®” enhances intensity and durability of colors.

“ANTI-HYDRO®” is a non-corrosive solution of organic and inorganic chemicals that reacts with Portland cement to produce more complete hydration. Water requirements, bleed water, capillaries and shrinkage are reduced. The increased hydration provides internal curing and a much denser, harder and tougher cement paste that binds the aggregates together. These combined reactions produce impermeable cement stucco or plaster that is hard, non-dusting and durable. It minimizes crazing and map-cracking, prevents the deterioration of metal lath and achieves a superior bond to underlying masonry surfaces. “ANTI-HYDRO®” is suitable for use with potable water and is compatible with subsequent finishes.

SPECIFICATIONS:

All cement stuccos and plasters, as indicated in plans and specifications, shall be waterproofed and protected with addition of “ANTI-HYDRO®”, as manufactured by Anti-Hydro International Inc., in strict accordance with manufacturer’s specifications. Refer to our [Waterproofing Systems Design Considerations](#) <-(click me *Tech. Bulletin W-1-1*) and [Waterproofing & Industrial Floor Details](#).

DESIGN CONSIDERATIONS:

Mixing-

Pre-packaged stucco or plaster mix shall be Type-M and/or Type-S only as defined by ASTM C 270 Table 2. Field mixed stucco or mortar shall be proportioned in conformance to ASTM C 270 and within the limits of Type-M and/or Type-S.

Field mixed stucco or plaster shall contain 1 part Type-1/Type-2 portland cement and 3 parts clean, sharp sand (Federal Spec. SS-A-281) with **not** more than 10% of hydrated lime per a bag (94 lb.) of Type-1/Type-2 portland cement. Gauging liquid shall be a mixture of 1 part “ANTI-HYDRO®” and 10 parts water. All parts measure by volume. Gaging liquid containing “ANTI-HYDRO®” shall be added to cement stucco or plaster and while being partially mixed.

INSTALLATION:

Masonry-

Masonry surfaces to receive stucco should be plumb, straight and true, clean, rough and dampened with water. Before application of portland cement stucco, prepared surfaces shall be brushed with a Slush Coat made by stirring fresh portland cement into a mixture of

1 part “ANTI-HYDRO®” and 3 parts water, to the consistency of a heavy paint. While Slush Coat is still wet, apply straightening or Scratch Coat of stucco with minimum thickness of $\frac{3}{8}$ ". This surface shall be wood floated and scratched in 2 directions. Finish Coat shall be at least $\frac{1}{4}$ " and of the same mix, applied over the dampened and Slush Coated surface of the Scratch Coat. Finish Coat shall be wood floated before texturing.

Metal Lath-

Reinforcement shall be paperback welded wire mesh or expanded metal diamond mesh lath. The metal reinforcing shall be applied straight without buckles and with joints staggered. Metal lath shall be applied with the longer dimensions across supports. The lath shall be lapped a minimum of 1" and only over supports.

Interior Surfaces of Masonry above Grade-

Inside surfaces of all masonry above grade shall be damp proofed by the application of Cement Plaster containing 1 part portland cement, 2 parts clean sand, gauged and tempered with a solution of 1 part “ANTI-HYDRO®” to 10 parts clean water. A minimum $\frac{3}{8}$ " thick Cement Plaster Coat shall be applied to the interior surfaces of the masonry, using bonding and application specifications as for stucco. Apply Scratch Coating in 2 directions after initial set to provide mechanical bond for additional coating of various interior finishes.

PRECAUTIONS:

Installation-

Construction Joints; whenever possible, coating shall be made continuously until completed. Where construction joints are necessary, they shall be carefully cleaned and grouted with bonding slush coated before coating is continued.

For optimum results, mixes as specified above are recommended. Mixes and materials in packaged stucco may vary, but their performance will be improved by the use of “ANTI-HYDRO®”. “ANTI-HYDRO®” has a set-time accelerating properties. All metals used for attaching reinforcing shall be galvanized.

Stucco applied during extreme drying conditions shall be kept dampened for 24 hours with water spray.

For slump greater than 4", add [A-H® SUPER P](#) <-(click me *Spec.3-8*) in lieu of additional water.

For ambient and substrate temperatures in excess of 80°F, use “ANTI-HYDRO®”-R in place of “ANTI-HYDRO®”. Where job specifications require, “ANTI-HYDRO®”-NC <-(click me *Spec.2-2B*) or “ANTI-HYDRO®”-NCR may be substituted for “ANTI-HYDRO®”

“ANTI-HYDRO®” conforms to the requirements of ACI 318-4.4.1 and ACI 318-3.6.3. “ANTI-HYDRO®”, when tested according to ASTM C 876-

91, exhibited no corrosion (see our [Technical Bulletin <-\(click me W-1-2\)](#)).

However, **DO NOT** use "ANTI-HYDRO®" in pre-stressed or post-tensioned applications or where chlorides are not acceptable.

Testing for set time is recommended before use as a result of recent globalization of cement sources.

Safety-

Use approved safety glasses, rubber gloves, coveralls and work boots. Protect animals, vegetation and food items. Refer to the Material Safety Data Sheet (MSDS) for details.

Storage-

Store in a dry, cool shaded area. Keep containers tightly closed. KEEP AWAY FROM CHILDREN. Refer to the MSDS for details.

TYPICAL PROPERTIES/PERFORMANCE DATA:

Concrete/mortar specimens, with "ANTI-HYDRO®" admixture, tested by various independent laboratories has shown:

- **Impermeability/Waterproofing-** Impermeable¹ at 20 psi (46' head of water).²
- **Vapor Transmission/Dampproofing-** Produced 85% reduction in transmission of vapor.⁹
- **ACI 318/Non-Corrosive-** Greatly exceed the requirements (non-corrosive).^{1,12} No sign of steel corrosion in concrete with "ANTI-HYDRO®".¹
- **Durability-** Highest durability (over a 15 year, freeze/thaw, durability test) of any material tested.³
- **Integral Curing-** Concrete cured internally, survived durability tests of 719 freezing-thawing cycles without any damage.¹⁴
- **Acceleration-** High range accelerator.^{1,13} 30% reduction in concrete setting times at 32° F.⁵
- **High Strength/Compressive Strength-** Concrete showed compressive strength significantly higher at all ages.^{4,6} Concrete exhibited 27% increase in 3 days and 23% in 7 days.⁵ Mortar exhibited 14% increase in 1 day, 11% in 3 days and 12% in 7 days.⁷
- **Bonding Shear Strength-** Poured topping with "ANTI-HYDRO®" bonded as an integral part of the old floor slab and the bond found to be stronger than the original concrete.⁶ (Double the bond strength).^{1,8}
- **Tensile Shear Strength-** Bonded to old concrete, in all cases, the failure occurred in the old concrete, and no failure occurred in the bond.¹¹
- **Abrasion Resistance-** Produced 85% increase in abrasion resistance.¹⁰
- **Shrinkage Reduction-** 20-25% reduction in shrinkage.⁶
- **Plasticity-** Produced a 29% increase in plasticity.⁶
- **ASTM Specification-** Meets ASTM C-494, Types A, C & E

* The above laboratory results may vary dependent on real or field conditions.

Test References:

1. Bulletin of the Board of Standards and Appeals, City of New York, Vol. XXVIII, No. 21.
2. US Department of Commerce, Bureau of Standards Tests of Integral and Surface Waterproofings for Concrete, Research Paper No. 394 (20 psi - 46' Head of Water).
3. US Army Corps of Engineers, Report No. 5, Technical Memorandum No. 6-226 - 15 Year Freeze/Thaw Test.
4. W. R. MacIntosh, C. E., University of Louisville Louisville, KY.
5. Shimel and Sor Testing Laboratories, Inc. Report No. 90-6515.
6. War Department, United States Engineer Office.
7. Fairway Testing Co., Sports Complex Building, West Point, NY.

8. Raymond G. Osborne, Bureau of Tests & Inspection Los Angeles.
9. Shimel and Sor Testing Laboratories, Inc. Report No. 88-2114.
10. Pittsburgh Testing Laboratory - 7512545A/3Y-3160-S.
11. Smith-Emery Company - P-28318, Los Angeles.
12. Shimel and Sor Testing Laboratories, Inc. Report No. 84-273 R
13. Herman G. Protze, Materials Technologist, Highlands, MA
14. War Department, Corps of Engineers, Mississippi River Commission Technical Memorandum No. 6-226

MAINTENANCE:

All due diligence must be exercised to provide a regular and frequent maintenance plan to clean and protect the finished surface from severe or prolonged assault from chemical attack, abrasive attack or similar abuse.

PACKAGING:

1-quart, 1-gallon, 5-gallon, 55-gallon or 220-gallon containers.

SERVICES:

Our technical staff is available to review product selection and detailing during the design stage, provide proper field guidance during the installation stage, evaluate concrete construction problems on-site and make recommendations.

ESTIMATOR'S DATA GUIDE:

Stucco-

1 gallon "ANTI-HYDRO®" per 100 sq. ft.

Interior Plaster Coat-

1 gallon "ANTI-HYDRO®" per 150 sq. ft.

Gauging Liquid-

1 part "ANTI-HYDRO®" to 10 parts water. Parts measured by volume.

5 to 5½ quarts of Gauging Liquid per 80 pounds of pre-packaged mortars, Type M and/or Type S only.

WARRANTY: Anti-Hydro International, Inc. (Anti-Hydro) warrants its products to be free of manufacturing defects at the time of delivery to its customer and will, at its option, replace or refund the invoiced price of any materials proven to be defective. This limited warranty is in lieu of any other warranty or guarantee, expressed or implied, including warranties of merchantability and fitness for a particular purpose. Anti-Hydro disclaims liability for any incidental, consequential, or other damages, including but not limited to, loss of profits or damages to a structure or its contents, arising under any theory of law whatsoever beyond the invoiced price of the material to its customer.

To the best of our knowledge, the information contained herein is accurate. However Anti-Hydro International, Inc. does not assume liability whatsoever for the accuracy or completeness of information contained herein. Final determination of suitability of any material is the sole responsibility of the user. All materials may present known or unknown hazards, please refer to the Material Safety Data Sheet (MSDS) for this product. This notification may not be detached from the specification. Any copying and redistribution of the specification shall also include copying and redistribution of this notice. Our sales persons or representatives, distributors and their personnel have no authority to change the recommendations contained herein.