

HYDRO ACTIVE[®] SOIL

Description

Hydro Active[®] (HA) Soil is designed to increase the bearing capacity of sandy ground when medium or high strength is required. In its uncured form, **HA Soil** is a blackish-brown nonflammable liquid. When it comes in contact with water, the grout expands and depending on temperature and amount of accelerator used (**HA Soil Cat**) quickly cures to a polyurethane foam that is resistant to most organic solvents, mild acids, alkali and micro organisms.

HA Soil can be injected in silty sand with a coefficient of permeability 10-4 (or 15% of the particle size 0.029 inch).

- Since the viscosity of the **HA Soil** will be lowered with higher temperature (4 cps at 120° F), it is possible to improve penetration properties by preheating the **HA Soil**.

Due to the formation of gas bubbles during the reaction, the penetration properties are improved approximately 10%.

Physical Properties

Uncured:

Solids	100%	ASTM D-2369-B
Viscosity	25 - 35 cps at 77°F	ASTM D-2196-A
Color	Blackish - brown	
Density	9.33 lbs/gal	ASTM D-1475
Flashpoint	COC 288°F	ASTM D-93
Corrosiveness	Non-corrosive	

Soil Cat

Appearance	Colorless liquid	
Viscosity	5 - 18 cps at 77°F	ASTM D-2196-A
Flashpoint	COC 320°F	ASTM D-93

Cured:

Density	8.75 - 9.17 lbs/gal	ASTM D-1475
Tensile Strength	170 psi	ASTM D-3574
Compressive Strength	1648 psi	
Bending Strength	369 psi	
Shearing Strength	184 psi	
Bond Strength to Bending bond strength:	28 psi	
Mortar Joints Shearing bond strength:	326 psi	
Toxicity	Non-toxic	

Reactivity			
	*at 50° F	% Soil Cat	Geltime in min-sec.
	0.5%		15' 05"
	1.0%		7' 00"
	1.5%		3' 42"
	*at 68° F	% Soil Cat	Geltime in min-sec.
	0.5%		11' 00"
	1.0%		5' 00"
	1.5%		2' 35"
	at 86° F	% Soil Cat	Geltime in min-sec.
	0.5%		6' 25"
	1.0%		3' 30"
	1.5%		1' 55"
Example - 1% Soil Cat = 1.3 oz. per gallon of Hydro Active[®] Soil Note: Soil Cat must be agitated by shaking the can prior to adding to resin			

CAUTION – pH NOTICE

Water used to activate Hydro Active Grouts must be in a range of pH 3 –10 for proper cross-linking of the materials and optimum foam quality

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Availability

Hydro Active[®] Soil: 5 gal metal pail, closed head with flexspout, filled and sealed under dry nitrogen.

Soil Cat: 25 oz. can.

Storage: Store in dry area using original Resealable Containers.

APPLICATION:

Hydro Active[®] Soil is a low viscosity, low pressure, injection grout that is open cell when cured and is designed for stabilizing soil, silty sand or gravel and is accelerated with Soil Cat. Before starting the injection process, the Hydro Active[®] Soil material should be agitated by vigorously shaking the 5 gallon pail or by mixing with a jiffy mixer or bung mixer attached to a drill motor. Once injected the grout will permeate through the soil and will react with the moisture in the soil forming a foam matrix that solidifies the soil resulting in a very dense ridged mass when cured.

Hydro Active[®] Soil will expand 2 – 5 times the volume depending on the amount of Soil Cat used. Prior to using Soil Cat, the can should be shaken vigorously as the contents may settle during storage. The grout should never be used with more Soil Cat than the amount that is recommended on this data sheet. The maximum recommended accelerator dosage is 1.5%. Too much Acceleration will cause a vigorous expansion that is prone to shrinkage. Pour the desired amount of Soil into a clean pail. Measure the appropriate amount of Soil Cat. Pour the measured Soil Cat into the Soil resin and stir with a mixing blade attached to a drill motor or stir with a paint paddle until adequately mixed.

For application procedures in extremely hot weather situations, call the Technical Service Office for recommendations.

Low Temperature Conditions

Low temperatures will significantly affect viscosity. To minimize this effect, store product at normal room temperature for a minimum period of 24 hours prior to use. If site temperatures are extremely low, heat bands may be used on the pails or the pails may be immersed in heated water baths before and during use to maintain the products temperature, lower the viscosity and improve penetration; only the lower 2/3 of the pails or drum should be immersed. Avoid splashing water into open containers, as the material is water activated. **DO NOT EXCEED 120► F WHEN WARMING.**

APPLICATION EQUIPMENT:

Hydro Active[®] Soil can be installed with an airless paint sprayer equipped with a grease gun instead of the original spray gun or Hand pumps attached to strainer pipes. The material can also be pumped through double pot packers, or inflatable packers used with Tube-A-Manchettes.

The choice of the airless pump is by far the best option for injection work. DeNeef sells the Graco 395ST and the 495ST pumps. These pumps come equipped with 15 feet of high-pressure hose, zerker connector, grease gun, swivel and liquid filled pressure gauge. Should the need arise for additional parts for the pumps, please call the manufacturers distributor in your area.

Product Warranty

De Neef Construction Chemicals, Inc. products are warranted under the following policy:

All recommendations, statements and technical data contained herein are based on tests we believe to be reliable and correct, but accuracy and completeness of said tests are not guaranteed and are not to be construed as a warranty either expressed or implied. User shall rely on his or her own information and tests to determine suitability of this product for the intended use and user assumes all risk and liability resulting from his or her use of the product. All information and statements are intended for persons having the required skill and know-how and do not relieve the user from verifying the suitability of the information and statements given for a specific purpose prior to use. Seller's and manufacturer's sole responsibility shall be to replace that portion of the product of this manufacturer which proves to be defective. Neither seller nor manufacturer shall be liable to buyer or any third person for any injury, loss or damage directly or indirectly resulting from use or inability to use this product. Recommendations or statements other than those contained in a written agreement signed by an officer of the manufacturer shall not be binding upon the manufacturer.

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 **de neef[®] Construction Chemicals Inc.**

P.O. Box 1219 Waller, Texas 77484 • Ph: 936-372-9185 • Fax: 936-372-9897 • www.deneef.com

