SikaGrout® 300 PT

High performance, bleed resistant, sand-free, cementitious grout

Description	SikaGrout 300® PT is a non-shrink, non metallic, cementitious grout with a unique 2-stage shrinkage compensating mechanism. It meets the PTI standard of <0.08% total chlorides by weight of mixed grout and/ or cementitious material when tested as per ASTM C-1152. With a special blend of shrinkage-reducing and plasticizing/water-reducing agents, SikaGrout® 300 PT compensates for shrinkage in both the plastic and hardened states.
Where to Use	 Use for horizontal and vertical grouting of ducts within bonded, post-tensioned structures. Use to grout and fill or repair voids within ducts of post-tensioning strands for corrosion protection. Use for grouting tight clearances.
Advantages	 Sand-free allows filling and repairing of voids within ducts of post-tensioned structures. Does not contain aluminum powder nor any components which generate hydrogen gas, carbon dioxide or oxygen. Enhanced with undensified silica fume for low permeability. Easy to use, just add clean, potable water. Non-metallic, will not stain or rust. Bleed resistant, even at high flow. Low heat build-up. Excellent for pumping: Does not build up on equipment hopper. Non-corrosive. Superior freeze/thaw resistance.
Coverage	Approximately 0.48 cu. ft./bag. Use between 11.5 to 12.5 pints of water per 50 lb. bag in order to achieve the proper flow. Do not exceed 12.5 pints of water per 50 lb. bag.
Packaging	50 lb. multi-wall bags.

Typical Data (Material and curing conditions @ 73°F (23°C) and 50% R.H.)

RESULTS MAY DIFFER BASED UPON STATISTICAL VARIATIONS DEPENDING UPON MIXING METHODS AND EQUIPMENT, TEMPERATURE, APPLICATION METHODS, TEST METHODS, ACTUAL SITE CONDITIONS AND CURING CONDITIONS.

Storage Conditions

Wet Density (ASTM C-138) Total Chloride Ions (ASTM C-1152) Fine Aggregate Volume Change (ASTM C-1090)

24 hours

28 days

Expansion (ASTM C-940) Compressive Strength (ASTM C-942) 3 hours between 0.0 and +2.0% 1 day 2,000 psi

0.0% shrinkage Between 0 and +0.2% expansion

Approximately 125 lbs. per cf.

(13.8 MPa) (34.5 MPa) (48.3 MPa) 3 days 5,000 psi 7 days 7.000 psi 28 days 8,000 psi (55.2 MPa)

Less than 0.08% by weight of cementitious material

Contains none (sand-contains calcium carbonate inert aggregate)

Six months in original, unopened bags. Store dry at 40° - 95° F (4° - 35° C). For best results, it is suggested to condition material to 65° - 75° F before using.

Initial Set (ASTM C-953) Approximately 3 to 12 hours

Fluidity Test (ASTM C-939 Modified per FL DOT Section 938 and PTI Section 4.4.5.2) Immediately after mixing 7-20 seconds

30 minutes after mixing 7-20 seconds

See Mixing section for clarification on flow testing

Bleeding (ASTM C-940 Modified per FL DOT Wick Induced Bleed Test) 4 hours 0.0%

Gelman Pressure Induced bleed test (PTI Specification Section 4.4.6.2 and Table 4-1 Grout Type C) 0.0% nominal (less than 1 drop of water) bleed at 100 psi for 5 minutes

Permeability (ASTM C-1202 modified per FL DOT section 938 and PTI section 4.4.3) 28 days Less than 2500 Coulombs Less than 10,000 ohm cm Electrical Resistivity (ASTM C-1202) 28 days

Accelerated corrosion test (reference FL DOT Specification Section 938-5)

Time to Corrosion

Control 344 hours Greater than 1,000 hrs. SikaGrout 300 PT



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How to Use **Surface Preparation**

Forming: Ensure forms and ducts will retain grout without leakage.

Ducts: Ensure that ducts, voids, openings, inlets and outlets are clean, dry and free of debris, fuel, oils, water, other contaminants, and site trash at all times.

Other grouting applications: Remove all dirt, oil, grease, and other bond-inhibiting materials by mechanical means. Anchor bolts to be grouted must be de-greased with suitable solvent which will not inhibit grout bonding. Follow solvent manufacturer's instructions and warnings. Concrete must be sound and roughened to promote mechanical adhesion. Prior to pouring, surface should be brought to a saturated surface-dry condition.

Mixing

For best results use a colloidal mixer similar to ChemGrout® CG-600 series or other type of high shear mixer at approximately 1800 rpm. Mix for minimum of 3 minutes after the addition of the last bag or until a homogeneous mix is achieved. Continue to agitate material in the holding hopper to achieve best flow. Alternatively, for quantities less than 1 bag, such as when vacuum grouting voids, mechanically mix with high-speed drill (2500 rpm) and Sika jiffy paddle for a minimum of 6 minutes. Method of mixing may significantly affect the material properties, particularly flow. At higher temperatures and/or water amounts near upper range of maximum 12.5 pints, the grout will be less thixotropic. Therefore, it may be more appropriate to measure the flow using the standard flow cone test (ASTM C-939). The preferred efflux time is between 15-30 seconds under these conditions. Project specific testing by the engineer is recommended to ensure that the mixing and placement methods result in the specified requirements.

Add appropriate quantity of clean potable water. Add bag of material to mixing vessel. Start by using 11.5 pints of water per 50 lb. bag of material. As with any cementitious product most properties are best when the least mixing water is used. Only add additional water as needed up to a total maximum of 12.5 pints (DO NOT EXCEED) per 50 lb. bag in order to achieve the flow specified on the technical data sheet. Ambient and material temperature should be as close as possible to 70°F. If higher, use cold water; if colder, use warm water

Application

Make sure all forming, mixing, placing, and clean-up materials are on hand. The grout shall be used within 60 minutes from the start of mixing. The method of pumping grout must ensure complete filling of the ducts without voids and complete surrounding of the strand or bar for product to perform and protect the tendon. A mock-up should be completed on-site and inspected by the engineer to ensure that the placement means and methods yield the specified results.

When grouting ducts or critical elements, it is highly recommended that experienced, A.S.B.I. Certified Grouting Technicians perform work.

Limitations

- Where practical, confirm duct filling and proper hardening of grout through probe holes. Report all anomalous behavior to the project engineer.
- Minimum ambient and substrate temperature 40°F and rising at time of application. For lower temperatures, refer to the Post-Tensioning Institute (PTI) Guide Specification for Grouting of Post-Tensioned Structures.
- Maximum ambient and substrate temperature is 100°F at the time of placement. For higher temperatures, refer to the PTI Guide Specification for Grouting of Post-Tensioned Structures.
- Minimum application thickness: 1/8 in.
- Maximum application thickness (neat): comply with PTI specification for grouting of post-tensioned structures
- Do not use as a patching or overlay mortar or in unconfined areas.
- Material must be placed within 60 minutes of mixing.
- As with all cement based materials, avoid contact with aluminum to prevent adverse chemical reaction and possible product failure. Insulate potential areas of contact by coating aluminum bars, rails, posts etc. with an appropriate epoxy such as Sikadur® 32 Hi-Mod.
- Do not exceed 12.5 pints of water when mixing grout.

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