



PRODUCT DATA SHEET

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NON-METALLIC, NON-SHRINK GROUTING

SikaGrout®-300 PT

HIGH-PERFORMANCE, ZERO-BLEED, SAND-FREE, CEMENTITIOUS GROUT

Description	SikaGrout®-300 PT is a fluid, non-shrink, cementitious grout with a unique, two-stage shrinkage compensating mechanism. It is non-metallic and contains no chlorides. With a special blend of shrinkage-reducing and plasticizing/water-reducing agents, SikaGrout®-300 PT compensates for shrinkage in both the plastic and the hardened states.
Where to Use	<ul style="list-style-type: none"> Use in 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 where sanded grouts would not flow
Advantages	<ul style="list-style-type: none"> Sand-free allows filling and repairing of voids within ducts of post-tensioned structures Prepackaged by an ISO 9001/9002 approved company ensures consistency of manufactured material Does not contain aluminum powder nor any components which generate hydrogen gas, carbon dioxide or oxygen Silica fume enhanced for low permeability For additional corrosion protection, 75 mL (2.5 fl. oz) of Sika® FerroGard®-901 may be substituted for 75 mL (2.5 fl. oz) of mixing water for each 22.7 kg (50 lb) bag of SikaGrout®-300 PT Easy to use; just add water Non-metallic; will not stain or rust. Non-corrosive; does not contain chlorides Zero bleed, even at high flow Excellent for pumping: Does not segregate, even at high flow. No build-up on equipment hopper Superior freeze/thaw resistance Meets CRD C 621 and ASTM C1107 (Grade C) Ministère des Transports du Québec (MTQ) acceptance

Technical Data

Packaging	22.7 kg (50 lb) multi-wall bag; 64 bags/pallet
Colour	Concrete Grey
Yield	Approx. 14 L (0.50 ft³) of fluid grout per bag. Use (as described in the mixing procedure below) between 5.45 and 6.15 L (11.5 and 13 pints) of water per 22.7 kg (50 lb) bag in order to achieve the proper flow.
Shelf Life	9 months in original, unopened bags. Store dry between 4 and 35 °C (40 and 95 °F) ensuring that product is not exposed to rain, condensation or high humidity. For best results, condition product between 18 and 24 °C (65 and 75 °F) before using.

Properties at 23 °C (73 °F) and 50 % R.H.

Wet Density ASTM C138	Approx. 2000 kg/m³ (125 lb/ft³)
Total Chloride Ions ASTM C1152	Less than 0.04 % by weight of cementitious material
Fine Aggregate	Contains none (sand-free)
Volume Change ASTM C1090	
24 hours	0.0 % shrinkage
28 days	between 0 and + 0.2 % expansion
Expansion ASTM C940	3 hours between 0.0 and + 2.0 %
Compressive Strength ASTM C942*, MPa (psi)	
1 day	25 (3600)
3 days	34 (5000)
7 days	48 (7000)
28 days	77 (11 000)

Compressive Strength ASTM C109, MPa (psi) (tested with Sikacem® Accelerator)*

Temperature	Dosage	24 hours	2 days	4 days	28 days
-5 °C	2 bottles (300 mL)	-	-	13 (1885)	42 (6091)
0 °C	1 bottle (150 mL)	-	10 (1450)	35 (5076)	44 (6381)
0 °C	2 bottles (300 mL)	-	16 (2320)	44 (6381)	51 (7396)
5 °C	1 bottle (150 mL)	-	18 (2610)	32 (4641)	46 (6671)
5 °C	2 bottles (300 mL)	-	24 (3480)	37 (5366)	54 (7832)
10 °C	1 bottle (150 mL)	12 (1740)	25 (3625)	38 (5511)	46 (6671)
10 °C	2 bottles (300 mL)	18 (2610)	33 (4786)	42 (6091)	54 (7832)

* Fluid consistency compressive strengths are given as minimum guidelines. Pourable and dry pack consistencies will easily exceed these values. All moulds, mixing tools and powder components were pre-conditioned to the test temperatures. Prepared test specimens were cast and then cured at the indicated test temperatures until the time of testing. Lid should be clamped on mold at all time. Maximum liquid/solids ratio (water + Sikacem® Accelerator/SikaGrout®-300 PT) = 0.27; [6.15 L (13 pints) of liquid per 22.7 kg (50 lb) bag of SikaGrout®-300 PT].

Initial Set ASTM C953	Approx. 3 to 12 hours
Fluidity Test ASTM C939 Modified per FL DOT Section 938 and PTI Section 4.4.5.2	
Immediately after mixing	7 - 20 s
30 min after mixing	7 - 20 s (see Mixing section for clarification on flow testing)
Bleeding ASTM C940 Modified per FL DOT Wick Induced Bleed Test	
4 hours	0.0 %
Gelmen Pressure Induced bleed test PTI Specification Section 4.4.6.2 and Table 4-1 Grout Type C	
0.0 % bleed at 690 KPa (100 psi) for 5 min	
Rapid Chloride Permeability ASTM C1202, modified per FL DOT section 938 and PTI section 4.4.3	
28 days	Less than 2500 Coulombs
Electrical Resistivity ASTM C1202	
28 days	Less than 10 000 Ohm-cm
W/C	Less than 0.40
Accelerated corrosion test, reference FL DOT Specification Section 938-6. Time to Corrosion	
Control	344 hours
SikaGrout®-300 PT	Greater than 1000 hours
VOC Content	≤ 10 g/L
Chemical Resistance	Contact Sika Canada

Product properties are typically averages, obtained under laboratory conditions. Reasonable variations can be expected on-site due to local factors, including environment, preparation, application, curing and test methods.

HOW TO USE

Surface Preparation

Ducts: Ensure that ducts, voids, openings, inlets and outlets are clean and free of debris, fuel, oils, other contaminants and site debris 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 placing, surface should be brought to a saturated, surface-dry (SSD) condition.

Forming

Ensure forms and ducts will retain grout without leakage.

Mixing

The whole mixing process (including type of equipment, mixing speed, mixing time, quantity of mixing water, temperatures of the mixing water and the material, ambient temperatures and batch size) will affect the material properties, particularly flow. At higher temperatures and/or with higher water amounts, the grout will behave more non-thixotropically. Site testing at the commencement of the project is recommended to ensure that the mixing and placement methods result in the specified requirements.

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 approximately three (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. Depending on batch size it may be necessary to continue mixing for up to 6 minutes to obtain the desired flow.

Alternately, for small quantities, such as when vacuum grouting voids, mechanically mix with high-speed drill (2500 rpm) and *Jiffy* paddle for a minimum of six (6) minutes.

Add appropriate quantity of clean water. Add material to mixing vessel. Start by using 5.45 L (11.5 pt) of water per 22.7 kg (50 lb) bag of material. Add additional water only as needed [a total maximum of 6.15 L (13 pt) per 22.7 kg (50 lb) bag] in order to achieve the flow specified. Ambient, water and material temperatures should be as close as possible to 21 °C (70 °F). If higher, use colder water; if colder, use warmer water. Note that it is quite possible to obtain the required flow at the lower end of the water requirements and it is important to start at 5.45 litres per bag. Note that excessive water in the mix may cause exudation or bleeding.

Accurate measurement of the quantity of water to be added is important to maintain consistency between batches. If water is to be added via an in-line system, the water metering equipment must be properly and professionally calibrated and checked on a regular basis during the course of the project

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 shall ensure complete filling of the ducts and complete surrounding of the strand or bar. When grouting post-tensioning, 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, certified technicians complete the work.

Clean Up

In case of spill, wear protective equipment (chemical resistant gloves/goggles/clothing). Ventilate area. In the absence of adequate ventilation, use a properly fitted NIOSH respirator. Confine spill. Vacuum or scoop into an appropriate container. Dispose of in accordance with current applicable local, provincial and federal regulations.

Limitations

- Important: protect stored material from exposure to rain, condensation and high humidity as moisture may penetrate packaging, causing lumps.
- For best results, condition product to 18 to 29 °C (65 to 84 °F) prior to mixing and installation. Lower temperatures may result in slower strength development and longer cure times.
- Minimum ambient and substrate temperature 5 °C (40 °F) and rising at time of application, unless using Sikacem® Accelerator (refer to Technical Data section). For lower temperatures, refer to the Post-Tensioning Institute (PTI) Guide Specification for Grouting of Post-Tensioned Structures.
- Maximum ambient and substrate temperature is 38 °C (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: 3 mm (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.

Health and Safety Information

For information and advice on the safe handling, storage and disposal of chemical products, users should refer to the most recent SAFETY DATA SHEET containing physical, ecological, toxicological and other safety-related data.

KEEP OUT OF REACH OF CHILDREN
FOR INDUSTRIAL USE ONLY

The Information, and in particular, the recommendations relating to the application and end-use of Sika products, are given in good faith based on Sika's current knowledge and experience of the products when properly stored, handled and applied under normal conditions, within their shelflife. In practice, the differences in materials, substrates and actual site conditions are such that no warranty in respect of merchantability or of fitness for a particular purpose, nor any liability arising out of any legal relationship whatsoever, can be inferred either from this information, or from any recommendations, or from any other advice offered. The information contained herein does not relieve the user of the products from testing them for the intended application and purpose. The proprietary rights of third parties must be observed. All orders are accepted subject to our current terms of sale and delivery. Users must always refer to the most recent issue of the local Product Data Sheet for the product concerned, copies of which will be supplied on request or may be downloaded from our website at: www.sika.ca

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