

Product Data Sheet

CasTech Grout GP

Nov-2025, Ver. 01.01



General Purpose Non-Shrink Cementitious Grout

DESCRIPTION

CasTech Grout GP is a ready-to-use, cementitious, normal-setting, non-shrink grout designed for precision grouting, anchoring and general structural applications. It is formulated with Portland cement, graded aggregates, micro silica, selected fillers and performance-enhancing chemical additives.

When mixed with clean water, the product can be adjusted to a flowable or fluid consistency. It provides controlled expansion, high early and ultimate strength, good bond to concrete and steel, and reliable load transfer beneath base plates and equipment foundations. **CasTech Grout GP** is suitable for grout gaps from 10 mm to 100 mm in a single pour.

TYPICAL USES

- Grouting beneath steel column bases and structural base plates
- Machinery foundations, stanchion bases and bridge bearings
- Anchor bolts, rail fixings, bolt pockets and concrete anchors
- Heavy steel-frame installation and equipment alignment
- Fixing, jointing and anchoring of precast concrete elements
- General void filling and structural grouting applications

ADVANTAGES

Key advantages:

- Ready to use; only clean water is required
- Adjustable flowable or fluid consistency
- Shrinkage-compensated in the plastic and hardened states
- High early and ultimate compressive strength
- High bond strength to concrete and steel
- Controlled expansion with nil bleeding
- Good workability retention and pumpability
- Suitable for 10-100 mm grout thicknesses

TYPICAL PROPERTIES

Appearance	Grey powder
Chemical base	Portland-cement grout with graded aggregates and additives
Water addition	3.0-3.75 L per 25 kg bag
Water/powder ratio	0.12-0.15
Fresh wet density at 25°C	2.20 ± 0.05 kg/L
Recommended grout temperature	+10°C to +30°C
Recommended placement period	Within 15 minutes of mixing
Application thickness	10-100 mm in one pour
Yield	Approx. 12.5 L per 25 kg bag at 3.75 L water
Shelf life	12 months
Compressive strength, 1 day	>25 N/mm ² - ASTM C109
Compressive strength, 7 days	>50 N/mm ² - ASTM C109
Compressive strength, 28 days	>65 N/mm ² - ASTM C109
Flexural strength, 28 days	>7 N/mm ² - ASTM C580
Bleeding	Nil - ASTM C940
Plastic-state expansion	Up to 2.0% - ASTM C827
Hardened-state expansion	0-0.3% - ASTM C1090
Setting time at 25°C	Initial >4 h; final <8 h - ASTM C191

Typical properties are based on laboratory-controlled testing at approximately 25°C and a water/powder ratio up to 0.15. Results are subject to normal manufacturing and test variation. Site performance dep

APPLICATION INSTRUCTIONS

SURFACE PREPARATION

General requirements

Concrete surfaces shall be sound, clean and free from laitance, dust, oil, grease, paint, curing compounds, corrosion products and all other contaminants that may impair bond. Remove weak or contaminated material by suitable mechanical means to expose a sound, roughened substrate.

Pre-soaking and steel surfaces

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Pre-soak concrete bond surfaces with clean water for at least 3-4 hours before grouting. Immediately before placement, remove all standing water and leave the substrate in a saturated-surface-dry condition. Steel base plates, bolts and reinforcement shall be clean and free from oil, grease, loose rust and scale.

Formwork

Formwork shall be rigid, secure and watertight to prevent grout loss. Seal all joints using suitable sealant or foam. Provide a grout head box or hopper where required to maintain continuous pressure and flow beneath the base plate. Allow sufficient clearance at the pouring side and provide air-release openings at the opposite side.

Base-plate configuration

Where applicable, grout bolt pockets before grouting beneath the base plate. Ensure the geometry allows the grout to travel by the shortest practical route and that trapped air can escape freely.

MIXING

Measure 3.0-3.75 litres of clean potable water for each 25 kg bag, depending on the required consistency. Add the measured water to a clean mixing vessel, then gradually add **CasTech Grout GP** while mixing continuously.

Mix using a slow-speed heavy-duty drill fitted with a grout paddle for small quantities, or a suitable high-shear vane mixer for larger volumes. Mix until a smooth, uniform and lump-free consistency is obtained. Use complete bags wherever possible to maintain product uniformity.

Do not exceed the recommended water quantity. Do not add cement, sand or other materials except where graded aggregate addition for thick sections has been specifically approved. Do not retemper grout that has begun to stiffen.

APPLICATION CONDITIONS

Maintain the mixed-grout temperature between +10°C and +30°C. In hot weather, use cool water and store the product under shade. In cold conditions, warm mixing water may be used where appropriate. Keep materials, mixer and placement area protected from direct sunlight, hot winds and extreme temperatures.

APPLICATION

Place the mixed grout within 15 minutes of mixing to obtain the full benefit of the controlled expansion. Ensure that

sufficient material, labour and equipment are available before placement begins.

Pour continuously from one side only to minimise air entrapment. Maintain a positive and uninterrupted grout head until the void is completely filled. Do not vibrate the grout. Light rodding or flexible strapping may be used where necessary to assist grout movement through congested areas.

HEALTH AND SAFETY

CasTech Grout GP is cement based and alkaline when mixed with water. Avoid contact with eyes, skin, mouth and foodstuffs. Wear suitable protective gloves, safety goggles, dust mask and protective clothing during handling, mixing and application.

In case of eye contact, rinse immediately with plenty of clean water and seek medical attention. Wash skin thoroughly with soap and water. If swallowed, seek immediate medical attention and do not induce vomiting unless directed by medical personnel. Keep away from children and animals.

Refer to the latest Safety Data Sheet (SDS) before use.

APPLICATION

For underplate applications, **CasTech Grout GP** may be placed from 10 mm up to 100 mm thickness in a single pour. Large-volume placements may be carried out using a suitable heavy-duty diaphragm pump.

Sections above 100 mm

For sections thicker than 100 mm, the grout may be extended with hard, clean, saturated-surface-dry, graded 10 mm aggregate. Add approximately 0.5-1.0 parts aggregate to 1 part grout by weight, subject to the required consistency, a site trial and CasTech technical approval.

CURING

Immediately after finishing, protect all exposed grout surfaces against rapid moisture loss. Cure with continuously wet hessian or burlap, polyethylene sheeting, or a suitable curing compound from the CasTech Cure range. Maintain effective curing in accordance with the project specification and ambient conditions.

CLEANING

Clean mixing and application equipment with water immediately after use. Hardened material can only be removed mechanically.

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YIELD

Approximately 12.5 litres per 25 kg bag when mixed with 3.75 litres of water. Actual yield may vary with water addition, mixing efficiency and site conditions.

PACKAGING

- 25 kg moisture-resistant bags

SHELF LIFE

12 months from the date of manufacture when stored unopened under the recommended conditions.

STORAGE

Store unopened bags under cover in a cool, dry and shaded area, raised off the ground and protected from rain, moisture,

high humidity and extreme temperatures. Use stock rotation to ensure that the stated shelf life is not exceeded.

STANDARDS

CasTech Grout GP is formulated as a non-shrink cementitious grout in accordance with the performance principles of ASTM C1107. Individual properties are determined using the test methods listed in the Technical Performance table, including ASTM C109, ASTM C580, ASTM C827, ASTM C940, ASTM C1090, ASTM C191 and BS EN 12350-6, where applicable.

TECHNICAL SUPPORT

CasTech provides on-site assistance and consulting services on projects when requested. Technical data sheets on other CasTech products and guidance on their use are available on request.

CasTech MIDDLE EAST FZE

T6-04, Sharjah Airport Free Zone, Sharjah, UAE

P.O. Box: 121661 Tel.: +971-6-5489207

Fax: +971-6-5579879 Email: info@castechchem.com