

webercem advanced precision grout SP

Shrinkage compensated highly flowable precision grout

- High initial and long term strength development
- Can be pumped, poured or trowelled
- Ideal for use under machinery, grouting rails and bridge bearings

About this product

webercem advanced precision grout SP is a premixed cementitious grout similar to standard **webercem advanced precision grout**, developed for applications where an economical grout with good flow, retention of flow and higher strengths is required.

webercem advanced precision grout SP is based on specially selected Portland cements, graded aggregates and admixtures.

webercem advanced precision grout SP is designed primarily as a flowing grout but can also be used at a trowellable consistency.

Meets Highways England Specification for Highway Works, Vol. 1, Clause 2601. Complies with BS EN 1504-3 and 6.

Features and benefits

- Complies with HE Specification Clause 2601.4 at 5°C and 20°C
- Precision grout suitable for use over a range of temperatures and site conditions
- Can be pumped, poured or trowelled
- Thermal expansion similar to that of good quality concrete
- Excellent flow properties
- Can be applied in thicknesses from 10mm to 100mm
- Does not significantly lose workability during pot life
- High initial and long term strength development



SHRINKAGE COMPENSATED



MEETS BS EN 1504-3 and 6



PUMP OR HAND APPLIED



10 to 100 mm APPLICATION DEPTH



14L FLOWABLE YIELD



POURABLE APPLICATION



webercem 
ADVANCED

Uses

- Under machinery and stanchion plates
- Grouting rails and bridge bearings
- Fixing bolts
- Underpinning
- Void filling

Constraints

- **webercem advanced precision grout SP** must only be used in confined situations, e.g. under baseplates, in holes etc.

Preparation

Concrete

All surfaces should be clean and sound. Concrete surfaces must be free from any contamination including oil, grease, laitance and dust – and for maximum bond, the surface should be roughened and pre-soaked with clean water.

Immediately prior to grouting, remove free water including that in bolt holes or recesses.

Metal surfaces must be free from rust, scale, oil or grease but removable metal shims should be lightly oiled.

Ensure bolt holes are free of dust, water or any loose material. Formwork should be well sealed to prevent leakage.

Mixing

This grout needs only to be mixed with sufficient water to give the consistency required. Mixing should be carried out in a proprietary grout mixer or in a bucket (where the height is at least 1½ times its diameter) by using a medium-speed drill (650 rpm) with an MR4-type helical attachment.

When using the maximum water to obtain a pourable grout, the following procedure is recommended. Pour about 2 litres of water into a suitable bucket, then add half the powder and mix to a thick paste consistency, ensuring any lumps are broken down by the shearing action. Continue mixing, adding more powder and some more water gradually into the vortex. After adding all the powder and having produced a mix of uniform creamy consistency,

add the rest of the water slowly into the vortex to obtain the pourable grout. Do not mix the grout for more than 5 minutes.

Avoid entraining excessive quantities of air during mixing by keeping the mixing head below the grout level at all times.

To obtain the consistency required, use the following water content:

To obtain the consistency required, add water as follows:

Trowellable mix - Approx. 3.0 litres of water per 25kg bag

Pumpable mix - 4.0 to 4.6 litres of water per 25kg bag

Pourable mix - 4.6 to 4.8 litres of water per 25kg bag

Chemical resistance

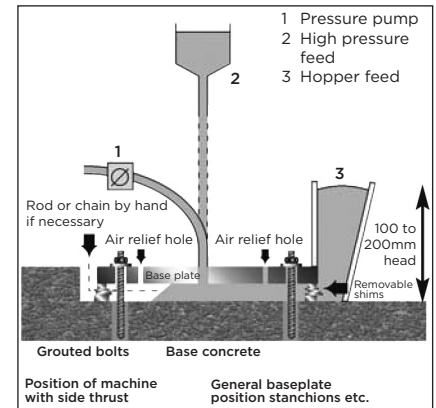
When properly placed and cured **webercem advanced precision grout SP** is a dense low permeability material which does not suffer damage from frost attack and freeze/thaw conditions. Its permeability means it is highly durable and resistant to de-icing salts.

Application

When pouring, the area to be grouted should be shuttered and a header box used to maintain a grout head of 150 - 200mm during the pour. Machine mixing is recommended to achieve continuous pouring. For large applications **webercem advanced precision grout SP** should be placed by pump and it has been formulated to give a 45 minute working time, considered essential for pumping. It does not contain metal particles; wear and tear on equipment is similar to conventional sand/cement mixes.

Mixing and placement can be carried out between +5°C and +40°C. In service, **webercem advanced precision grout SP** will perform similarly to other cementitious mixes based on Portland cement in the temperature range of -20°C to +150°C.

Continuous grout flow is essential and sufficient grout and water should be available to be mixed to ensure there is no discontinuity of the flow.



The diagram illustrates typical methods of placing **webercem advanced precision grout SP**.

Where the thickness of grout is greater than 50mm, the grout may be bulked out with clean single sized aggregate. However, other Weber products, including **webercem advanced repair concrete**, which may be more suitable. Please contact our Technical Department. The grout around the edges of baseplates must be finished flush with the sides by cutting the grout while still green after stripping formwork.

Precautions

webercem advanced precision grout SP is based on Portland cement and good concreting practice with regards placing and curing especially under winter conditions must be observed.

Do not add water above the recommended stated dosages.

Use only clean (potable) water. Avoid leaving unconfined areas of grout proud around bearings etc.

Packaging and yield

webercem advanced precision grout SP is supplied in 25kg polythene lined bags.

Coverage

For a pourable mix each 25kg bag produces approximately 14 litres of grout i.e. 71 bags per cubic metre. When using a trowellable mix the yield is 13 litres i.e. 77 bags per cubic metre. For estimating purposes, 5% extra should be allowed for spillage during mixing and placing.

Storage and shelf-life

When stored unopened in a dry place at temperatures above 5°C, shelf life is 12 months from date of manufacture.

Health and safety

For further information, please request the Material Safety Data Sheet for this product.

Technical data

EN1504		All tests carried out at max. water addition at 20°C unless otherwise stated		
Performance characteristic	Method	Requirement	Result	Pass/Fail
Compressive strength	EN 12190	≥45 MPa	59.3 MPa	Pass
Chloride ion content	EN 1015-17	≤0.05 %	<0.01%	Pass
Adhesive bond	EN 1542	≥2.0 MPa	2.9 MPa	Pass
Carbonation resistance	EN 13295	dk ≤ control concrete (1.3)	dk ≤ control concrete	Pass
Elastic modulus	EN 13412	≥20 GPa	20.4 GPa	Pass
Thermal compatibility Part 1 Freeze-thaw	EN 13687-1	Bond strength after 50 cycles ≥2.0 MPa	2.7 MPa	Pass
Capillary absorption	EN 13057	≤0.5 kgm ⁻² h ^{-0.5}	0.1 kgm ⁻² h ^{-0.5}	Pass
Reaction to fire	EN 13501-1	Declared class	Class A1	
Coefficient of thermal expansion	EN 1770	Declared value	30.0*10 ⁻⁶	
Pull-out	EN 1881: 2006	Displacement ≤ 0.6mm at 75 kN	≤ 0.6mm	Pass

DTP Specification c2600, Clause 2601.4		All tests carried out at max. water addition at 20°C unless otherwise stated		
Performance characteristic	Method	Requirement	Result	Pass/Fail
Flow cone at 5°C	ASTM C939-02	Efflux time of repeat to be within ±5% of each other & record average recorded	30 seconds	Pass
Flow cone at 20°C			28 seconds	
Flow between glass plates at 5°C	HCD drawing no.K2	Mortar should rise ≥10mm above the underside of the top plate at all positions, without signs of segregation, bleeding, effervescence or air inclusions	Satisfied	Pass
Flow between glass plates at 20°C			Satisfied	
28 day compressive strength at 20°C	EN 12190	≥50.0 MPa	67.5 MPa	Pass
Expansion test	ASTM C827-01a	≥0.25 ≤2.5%	1.9%	Pass
Elastic stability		≤1.0%	0.75%	Pass

Technical data

ASTM C 1107-17		All tests carried out at max. water addition at 23°C unless otherwise stated		
Performance characteristic	Method	Requirement	Result	Pass/Fail
Change in height at early ages of cylindrical specimens of cementitious mixtures	ASTM C827-16	≥0.0 - ≤4%	1.77%	Pass
Changes in height of cylindrical specimens of hydraulic-cement grout	ASTM C1090-15	≥0.0 - ≤+0.3%	0.04%	Pass
1 day compressive strength of hydraulic cement mortars (using 50mm cube specimens)	ASTM C109-20a	7.0 MPa	27.23 MPa	Pass
3 day compressive strength of hydraulic cement mortars (using 50mm cube specimens)	ASTM C109-20a	17.0 MPa	40.06 MPa	Pass
7 day compressive strength of hydraulic cement mortars (using 50mm cube specimens)	ASTM C109-20a	24.0 MPa	55.22 MPa	Pass
28 day compressive strength of hydraulic cement mortars (using 50mm cube specimens)	ASTM C109-20a	34.0 MPa	56.88 MPa	Pass

Additional test data		All tests carried out at max. water addition at 20°C unless otherwise stated	
Performance characteristic	Method	Result	
Tensile strength of hardened mortar	BS 6319-7	3.3 MPa	
14 day drying shrinkage	BS 1920-8	0.030%	
21 day drying shrinkage		0.040%	
28 day drying shrinkage		0.065%	

Indicative strength gain		All tests carried out at max. water addition in laboratory conditions			
Temperature	24 hours	3 Days	7 Days	28 Days	
Compressive strength @ 5°C	0 MPa	24.97 MPa	52.45 MPa	63.18 MPa	
Compressive strength @ 10°C	5.37 MPa	39.78 MPa	51.48 MPa	60.5 MPa	
Compressive strength @ 20°C	34.32 MPa	43.05 MPa	55.48 MPa	65.87 MPa	

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