



ChemMasters®

Quality • Innovation • Service

Conset One™

Non-shrink, Non-metallic
Cementitious Construction Grout

P R O D U C T D A T A

DESCRIPTION

ChemMasters' **Conset One**, is a non-shrink, non-metallic, construction grout used at dry pack, plastic, flowable, or fluid consistency. Meets or exceeds DOT requirements in most states including MI, OH, NY and NC. Meets ASTM Standards C1107 type 1, 2 and 3 and CRD C-621.

ADVANTAGES

- Flowable and self consolidating
- May be placed at plastic consistency for increased strength requirements – up to 8,120 psi after 28 day cure
- Non-shrink for maximum load bearing
- Can be extended 50% for placements over 2 inches (5 cm) deep
- Natural aggregate matches the color of concrete
- Contains no oxidizing components, will not rust
- Pumpable for rapid placement on large projects

USES

Building Columns
Bridge Beams
Sewers
Precast Columns
Fence Posts
Anchor Bolts
Bed Plates
Wall Panels

Hand Rails
Boiler Plates
Precast Beams
Dowels
Highway Barriers
Base Plates
Underpinnings
Pipes/Sleeves

TECHNICAL DATA

Packaging

Container	lbs / kg	Pallet	Item#
Moisture proof bags	50 / 22.7	60	F2310.50
Bulk bags 1 cubic yard	3000 / 1364	na	F2310.30

Yield per 50 lb (22.7 kg)

	ft ³	m ³
Plastic	0.42	0.012
Flowable	0.43	0.012
Fluid	0.45	0.013

Flow ASTM C 230 Flow Table, water per 50 lb bag

	Fluid Oz	Liters	5 drops
Plastic	130	3.8	117%
Flowable	136	4	126%
Fluid	154	4.5	<30 seconds **

* For Ohio D.O.T. keyway grouting use a maximum of 8.5 pints (4L) water per 50 lb (23kg bag) ** Flow Cone

Set Times ASTM 191/Vicat Method—Hours to Set

	Initial	Final
Plastic	3.0	4.5
Flowable	3.5	4.5
Fluid	4.0	6.5

Compressive Strength ASTM C 109 / C 109M 2" Cubes - psi @ x days to cure

	1 Day	3 Day	7 Day	28 Day
Plastic	5050	6630	7430	8120
Flowable	4250	6300	7180	8720
Fluid	3725	5860	6800	8350

Expansion ASTM 1090 / CRD C 621 Moist Cured

	24 hrs	3days	14 days	28days
Fluid	0.03%	0.03%	0.03%	0.04%

ASTM C827 Early Height Change

Avg of two 3"x6" cylinders @ Fluid	+ 3.7%
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VOLUME GROUTING

For applications over 2 inches (5 cm) deep, **Conset One** may be extended with up to 25 lbs (11 kg) of clean, SSD 3/8" (0.95 cm) pea gravel per bag. With 9 pints (4.3L) of water yield will increase to approximately 0.6ft³ (0.017m³) When including pea gravel in the mix, flow will decrease significantly.



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DIRECTIONS

Grouting is best accomplished at temperatures from 40° to 90°F (4° to 32°C). For extremely low or high temperatures, follow the ACI 305 Hot Weather Concreting or ACI 306 Cold Weather Concreting or consult ChemMasters' Technical Service Department for additional recommendations.

15 minute working time is based on 70°F (21°C) "as mixed" temperature. Mix water may be adjusted to maintain a consistent 70°F (21°C) "as mixed" temperature. At 90°F (32°C), mix water may be adjusted to 33°F (1°C). At 40°F (4°C), mix water may be adjusted to 90°F (32°C). Proportional mix water temperature adjustments may be made within this range to maintain a 70°F (21°C) "as mixed" temperature.

PREPARATION: The concrete substrate where the grout will be placed must be clean and free of any curing or sealing compounds, dust, dirt, oil or grease. The base should be textured where possible using a small chipping hammer. Presoak the substrate with water for 24 hours to prevent premature drying of the grout. Cover with wet burlap or polyethylene sheeting to retain moisture.

FORMING: Forms will be required for most grouting applications. Top edges of forms must be higher than bottom of base plate to be grouted. Seal bottom edges of forms to prevent grout from leaking. Construct forms with a larger gap, at least 2" (5 cm), between form and base being grouted. Use a slant board or construct a head box to direct flow of grout from front to back. Allow at least a 1" (2.5 cm) gap at backside of form to facilitate flow and allow air to escape in front of grout flow. All forms in contact with the grout must be coated with ChemMasters' **Release or Safe-Slip**.

MIXING: A paddle type mortar mixer, grout pump, or heavy duty 1/2" drill with mixing prop are required. Place approximately 80% of required water into clean pre-wet mixer or container. Use only as much water as needed to properly place the grout. Adding excess water decreases strength and expansion.

When using aggregate add it to the water. Do not add sand or cement to **Conset One**. With mixer blades operating, open bag, gradually empty into mixer, mix for about 1 minute, add remaining water, and mix for 3 to 4 minutes. Following this sequence should eliminate lumping and keep mixer clean and free of excess buildup.

PLACEMENT: Always place grout from one side at a steady, continuous flow to push air out in front of grout flow, ensuring maximum surface bearing of the plate or base. Do not vibrate grout.

CURING: Proper curing is required! As soon as grout placement is complete, wet cure or use a ChemMasters' *ASTM C 309 Liquid Membrane Forming Curing Compound*. Contact ChemMasters Technical Service Department for recommendations.

If wet curing wet burlap may be used following the guidelines in ACI 351, *Grouting for Support of Equipment and Machinery*.

CLEANUP: Clean tools and equipment with warm water before material dries and hardens.

LIMITATIONS

- Do not apply to frost covered or frozen surfaces or at substrate or ambient temperatures below 40°F (4°C). Follow ACI 305 Hot Weather Concreting and 306 Cold Weather Concreting guidelines for placement when temperature is below 40°F (4°F) or above 90°F (32°C).
- ChemMasters recommends the use of ChemGrout mixers and pumps for placements under large base-plates or with a difficult configuration
- Contact ChemMasters' Technical Service Staff for special recommendations on precision grouting, dry pack situations or unusual circumstances
- For close tolerance placement or heavy duty applications subjected to extreme thermal shock, chemical resist, extreme high strength or dynamic loading, consider the use of ChemMasters' **Gorilla Grout, Kemset Grout, Met-Ox Grout, or Polytops CR Grout**

Storage: Store in a cool dry location off the ground. Unopened bags can be stored for up to 2 years when kept dry.

CAUTIONS

May cause eye and respiratory tract irritation. Over exposure may cause skin irritation. Do not take internally. See current MSDS for additional precautions.

**For professional use only.
Keep out of reach of children.**

Proper application is the responsibility of the user. ChemMasters can only make technical recommendations and cannot provide quality control on the jobsite.

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