

TECHNICAL DATA SHEET

DESCRIPTION

Epoxy Grout J55 is a matched system of blended aggregates and pre-measured 100% solids, very low exotherm epoxy resin. When mixed, the result is a non-shrink grout that can be placed from 3/4" (1.0 cm) up to a maximum of 8 inches (20.3 cm) deep in a single pour resulting in a 95% bearing area when properly installed.

USE

Epoxy Grout J55 can be used for anchor bolts and sleeves, supporting pumps, mill tables, crushers, crane rails, engines, compressors, rotary equipment and other heavy machinery requiring a stable and energy absorbing base subject to dynamic loads to maintain precision alignment.

FEATURES

- High early strength
- Excellent flow
- 1.5 Hours working time @ 75°F (24°C)
- Very low exotherm allows for 8 in. (20.3 cm) depth in single pour
- High impact resistance
- Superior creep resistance
- Excellent chemical resistance
- Tenacious adhesion to concrete and steel

PROPERTIES

ASTM C579 Compressive Strength @ 73°F (22.7°C):

- 1 day 10,000 psi (68.9 MPa)
- 3 day 13,000 psi (89.6 MPa)
- 7 day 14,000 psi (96.5 MPa)

ASTM C1181 Compressive Creep @ 1 day: (400 psi, 140°F) <0.005 in/in

ASTM C307 Tensile Strength @ 7 days: 2,000 psi (13.8 MPa)

ASTM C580 Flexural Strength @ 7 days: 3,400 psi (23.4 MPa)

ASTM C580 Flexural Modulus @ 7 days: 2.43 x 10⁶ psi

ASTM C882 Bond Strength
7 days: 3,700 psi (25.5 MPa)
28 days 3800 psi (26.2 MPa)

ASTM C884 Thermal Compatibility: Pass

ASTM D2471 Gel Time: 180 minutes, 14 oz (415 ml)

ASTM D2471 Peak Exothermic: 98°F (36.7°C), 14 oz. (415 ml)

ASTM C531 Linear Shrinkage on cure: 0.015%

ASTM C531 Coefficient of Thermal Expansion: 15 x 10⁻⁶ in/in/°F

ASTM D2240 Shore D Hardness @ 14 days: 86

ASTM C905 Density @ 7 days: 147 lb/ft³ (2,360 kg/m³)

ASTM D638 Tensile Strength @ 7 days: 2800 psi (19.3MPa)

ASTM D638 Tensile Modulus @ 7 days: 4.4 x 10⁵ psi

ASTM D695 Compressive Strength @ 7 days: 11,000 psi (75.8 MPa)

ASTM D695 Compressive Modulus @ 7 days: 3.97 x 10⁵ psi

ASTM E488 Pull-out data for threaded rod & rebar: See Appendix A

Note:

The data shown is typical for controlled laboratory conditions. Reasonable variation from these results can be expected due to inter-laboratory precision and bias. When testing the field mixed material, other factors such as variations in mixing, temperature and curing conditions should be considered.

VOC

J55 has a VOC of 0 g/L and therefore VOC compliant in all regulatory regions in Canada and the U.S., including U.S EPA, SCAQMD, LADCO, CARB and OTC.

Estimating Guide

2 cu ft / .057 cu.m Unit (280 lb / 127 kg)

Component A – 2.7 gal in a 5 gal / 18.9 L pail

Component B – 1.2 gal in a 3 gal / 7.5 L pail

Component C – (4) 60 lb / 27 kg bags

Packaging

PRODUCT CODE	PACKAGE	SIZE	
		cu. ft.	(cu m)
309214	Unit	2	0.057

STORAGE

Store in well ventilated area between 50° to 90°F (10° to 32°C). Resin (Part A) may crystallize if stored below 50°F (10°C). Shelf life is two years when stored unopened in original container.

TECHNICAL DATA SHEET

Surface Preparation:

All mating surfaces for the proper bonding of grout shall be free of grease, oils, waxes, old epoxy and other impediments to adhesion. Concrete substrates shall be structurally sound, dry and should have a roughened profile resulting in an International Concrete Repair Institute (ICRI) Concrete Surface Profile (CSP) of between CSP # 2-3, or the texture of medium grit sandpaper to ensure maximum adhesion. Metal surfaces should be prepared to a SSPC-SP 6 Commercial Blast Cleaning Specification. Do not place on damp or otherwise green concrete. All steel surfaces exhibiting sharp edges should be smoothed or otherwise radiused prior to placement of the epoxy grout.

Failure to smooth and or radius sharp edges may result in cracking. Items not intended to bond to grout, such as leveling screws, wedges and bolts, must be protected with wax, caulk, duct tape or similar products.

Mixing

For best results, Part A-resin, B-hardener & C-aggregate should be pre-conditioned for at least 24 hours to at least 75°F (24°C) for ease of mixing and maximum flow. First premix components A & B separately then pour part B-hardener into Part A-resin and mix for a minimum of 3 minutes with a low speed mixer and avoid incorporation of air. Keep mixer below material line to avoid entrapping air in the mix. A Jiffy mixer is the preferred mixing paddle. Pour mixed liquids into a mortar mixer and add component C while mixer is running.

Mix for a minimum of two minutes to thoroughly wet all aggregate. Do not over mix; do not thin or add any solvents or thinners. Working time after mixing is approximately 1.5 hours at 72°F (22°C). Do not mix partial units; mix only full units.

Forming

Forms must be securely anchored and liquid tight. All Forms should be coated with a minimum of two coats of paste wax such as "Johnson's" paste wax (car wax is not acceptable) or other suitable release agents. Forms should have a 45° angle chamfer strips at all vertical corners and around the perimeter of grout edges to eliminate all sharp edges and corners. Forms should be constructed so as to allow the use and placement of a head box to achieve a hydraulic head for ease of placement. Seal all cracks, crevices or any other places that may leak with a suitable caulk, sealant, or hydraulic cement.

NOTE: Large grouting areas may require expansion joints installed. Expansion joint material should be non-absorbent and chemical resistant. Expansion joints should be placed between 48-60" (1.22-1.52 m) depending on the design and specifications of the project.

For more details on placement and expansion joints spacing refer to the Dayton Superior Epoxy Grout Guide. Hard rubber Expansion Joint material is available in 10' lengths (3.05 m).

Placement:

Open areas may be poured directly into the cavity from a pail. Use a head box when necessary to chase air from beneath base plates and sole plates to maintain a hydraulic head. Epoxy grouts are typically poured into the forms at one location to allow a uni-directional flow to displace air. Inspect forms frequently for leaks. Epoxy Grout J55 can be placed up to 8 inches (20.3 cm) neat and 16 inches (40.6 cm) extended. For deep pours and temperatures above 85°F contact Dayton Superior Technical Service. Plug leaks with sealant, caulk, hydraulic cement, or putty.

Using Epoxy Grout J55 with 3/8" (9.5 mm) pea gravel that is clean, dry and conforms to ASTM C33: The use of pea gravel extension, 4-50 lbs (22.7 kg) bags per 2 cu ft. (cu M) unit, increases the unit yield from 2 cu ft. to 3.4 cu ft. and reduces the Exotherm during cure. This system is designed to pour to a depth of 16" (40.6 cm) when flowability is not a consideration.

TECHNICAL DATA SHEET

Mortar mixers are recommended for mixing when using aggregate extender. First mix components A & B together for a minimum of 3 minutes. Once components A & B are mixed pour the material into a mortar mixer and add 1 bag of Part C. Start the mixer as slow as it will go and mix until all material is wetted. Continue to add the remaining 3 bags of part C and mix until fully wetted out. Now add three to four bags of the pea gravel to the mixer. Stop mixing once all aggregate is wetted out. Pour the material into buckets or other suitable containers and place it. Additional lifts can be done after previous pour is hard, typically within 24 hours.

Note: After forms have filled to the desired level, exposed horizontal surfaces of the grout may be finished using a suitable surfactant to reduce surface bubbling or foaming. Suitable surfactants are Citrus Cleaner J48, WD-40, xylene (xylol), and toluene. The surfactant should be lightly sprayed on the surface and gently brushed or troweled with a 2" wide plastic putty knife. Do not allow surfactant to puddle on surface. This may be performed every 25- 30 minutes until the grout has set hard.

Cure Time

Temperature	Working Time	Curing Time
55°F/13°C	5 hrs	36 hrs
65°F/18°C	3 hrs	30 hrs
75°F/24°C	1.5 hrs	24 hrs
85°F/29°C	45 minutes	18 hrs
95°F/35°C	20 minutes	12 hrs
100°F/38°C	15 minutes	8 hrs

CLEAN UP

Clean all tools with xylene (xylol), toluene or Citrus Cleaner J48 before the epoxy sets. Mortar mixers can be cleaned using two bags of 1/4-3/8 in. (0.6 cm – 0.95 cm) pea gravel with glycol. The glycol may be used several times before disposal. All tools must be cleaned up before the grout has set hard.

LIMITATIONS

FOR PROFESSIONAL USE ONLY

Do not thin with solvents.
Do not mix less than a full unit
Always use all of the component C aggregate
Product, surface and ambient temperatures must be 55°F (13°C) during, and at least 48 hours after application. Minimum age of concrete must be 21-28 days from date of placement depending on curing and drying conditions.

For application with constant high temperatures above 150°F (66°C), contact Dayton Superior.

Note: High temperatures will accelerate the setting time and low, cool temperatures will slow the setting time. As a general rule, the pot life of epoxy will be cut in half for each 10° to 15° increase in temperature above 75°F (24°C), the pot life will double for each 10° to 15° drop below 75°F (24°C).

PRECAUTIONS

READ SDS PRIOR TO USING PRODUCT

- Component A – Irritant
- Component B – Corrosive
- Product is a strong sensitizer
- Use with adequate ventilation
- Wear protective clothing, gloves and eye protection (goggles, safety glasses and/or face shield)
- Keep out of the reach of children
- Do not take internally
- In case of ingestion, seek medical help immediately
- May cause skin irritation upon contact, especially prolonged or repeated. If skin contact occurs, wash immediately with soap and water and seek medical help as needed.
- If eye contact occurs, flush immediately with clean water and seek medical help as needed
- Dispose of waste material in accordance with federal, state and local requirements
- Cured epoxy resins are innocuous

MANUFACTURER

Dayton Superior Corporation
1125 Byers Road
Miamisburg, OH 45342
Customer Service: 888-977-9600
Technical Services: 877-266-7732
Website: www.daytonsuperior.com

TECHNICAL DATA SHEET**WARRANTY**

Dayton Superior Corporation ("Dayton") warrants for 12 months from the date of manufacture or for the duration of the published product shelf life, whichever is less, that at the time of shipment by Dayton, the product is free of manufacturing defects and conforms to Dayton's product properties in force on the date of acceptance by Dayton of the order. Dayton shall only be liable under this warranty if the product has been applied, used, and stored in accordance with Dayton's instructions, especially surface preparation and installation, in force on the date of acceptance by Dayton of the order. The purchaser must examine the product when received and promptly notify Dayton in writing of any non-conformity before the product is used and no later than 30 days after such non-conformity is first discovered. If Dayton, in its sole discretion, determines that the product breached the above warranty, it will, in its sole discretion, replace the non-conforming product, refund the purchase price or issue a credit in the amount of the purchase price. This is the sole and exclusive remedy for breach of this warranty. Only a Dayton officer is authorized to modify this warranty. The information in this data sheet supersedes all other sales information received by the customer during the sales process. THE FOREGOING WARRANTY SHALL BE EXCLUSIVE AND IN LIEU OF ANY OTHER WARRANTIES, EXPRESS OR IMPLIED, INCLUDING WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE, AND ALL OTHER WARRANTIES OTHERWISE ARISING BY OPERATION OF LAW, COURSE OF DEALING, CUSTOM, TRADE OR OTHERWISE.

Dayton shall not be liable in contract or in tort (including, without limitation, negligence, strict liability or otherwise) for loss of sales, revenues or profits; cost of capital or funds; business interruption or cost of downtime, loss of use, damage to or loss of use of other property (real or personal); failure to realize expected savings; frustration of economic or business expectations; claims by third parties (other than for bodily injury), or economic losses of any kind; or for any special, incidental, indirect, consequential, punitive or exemplary damages arising in any way out of the performance of, or failure to perform, its obligations under any contract for sale of product, even if Dayton could foresee or has been advised of the possibility of such damages. The Parties expressly agree that these limitations on damages are allocations of risk constituting, in part, the consideration for this contract, and also that such limitations shall survive the determination of any court of competent jurisdiction that any remedy provided in these terms or available at law fails of its essential purpose.

TECHNICAL DATA SHEET

Appendix A

Table 1: Epoxy Grout J55 Performance to ASTM E488 – Pull Out Strength-Threaded Rod¹

Threaded Rod Size	Hole Size	Embedment Depth	Pull Out Strength @ 7 days
1/2"	2"	4"	14,000 lbf
5/8"	2"	4"	16,000 lbf
3/4"	2"	5"	19,000 lbf
1"	2"	7"	23,500 lbf

1. Average of five specimens per condition utilizing 125 ksi threaded rods embedded into grouted 2-in diameter (dry) holes in concrete with a compressive strength of over 6,000 psi at time of testing.

Table 2: Epoxy Grout J55 Performance to ASTM E488 – Pull Out Strength-Steel Rebar¹

Rebar Size	Hole Size	Embedment Depth	Pull Out Strength @ 7 days
#4 (1/2")	2"	4"	16,000 lbf
#5 (5/8")	2"	4"	16,500 lbf
#6 (3/4")	2"	5"	20,100 lbf
#8 (1")	2"	7"	22,000 lbf

1. Average of five specimens per condition utilizing steel rebar embedded into grouted 2-in diameter (dry) holes in concrete with a compressive strength of over 6,000 psi at time of testing.