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Technical Data Guide



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Joint
Sealants

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MasterSeal® SL 1™

One-component elastomeric, self-leveling polyurethane sealant

FORMERLY SONOLASTIC® SL 1™

PACKAGING

- 5 gallon pails (18.9 L)
- 2 gallon pails (7.6 L)
- 825 ml cartridges,
12 cartridges per carton
- 300 ml cartridges,
30 cartridges per carton and
12 cartridges per carton

COLOR

Limestone and Gray (only available in
825 ml cartridges)

YIELD

See page 3 for charts

STORAGE

Store in unopened containers in
a cool, clean, dry area. Storing at
elevated temperatures will reduce
shelf life.

SHELF LIFE

IN BULK
6 months when properly stored

CARTRIDGES

1 year when properly stored

VOC CONTENT

29 g/L
less water and exempt solvents

DESCRIPTION

MasterSeal SL 1 is one component, non-priming, self-leveling elastomeric polyurethane designed for expansion joints in concrete floors and decks. Use it where flexibility as well as abrasion and puncture resistance are required.

PRODUCT HIGHLIGHTS

- Movement capability of $\pm 35\%$ allows expansion and contraction with joint movement
- Abrasion resistant to provide for longer wearing and durability
- Easy to gun for quick installation
- Variety of types and sizes of packaging to help reduce jobsite waste
- No priming needed on most surfaces, offering excellent adhesion
- Self-leveling, so no tooling needed
- Wide application temperature range makes MasterSeal SL 1 suitable for all climates
- Excellent weatherability for long-lasting performance

APPLICATIONS

- Horizontal
- Interior and exterior
- Expansion joints
- Control joints
- Pavers
- Plaza decks
- Industrial floors
- Driveways/garages
- Sidewalks
- Decks
- Parking structures
- Pitch pans

SUBSTRATES

- Concrete
- Metal

HOW TO APPLY

JOINT PREPARATION

1. The product may be used in sealant joints designed in accordance with SWR Institute's Sealants - The Professional's Guide.
2. In optimal conditions, the depth of the sealant should be $\frac{1}{2}$ the width of the joint. The sealant joint depth (measured at the center) should always fall between the maximum depth of $\frac{1}{2}$ " and the minimum depth of $\frac{1}{4}$ ". Refer to Table 1.
3. In deep joints, the sealant depth must be controlled by closed cell backer rod or soft backer rod. Where the joint depth does not permit the use of backer rod, a bond breaker (polyethylene strip) must be used to prevent three-point bonding.

A brand of
MBCC GROUP

Technical Data**Composition**

MasterSeal SL 1 is a single-component polyurethane sealant, which cures by reaction with atmospheric moisture.

Compliances

- ASTM C 920, Type S, Grade P, Class 35, Use T, M, NT, A and O*
- Federal Specification TTS- 00230C, Type 1, Class A
- Corps of Engineers CRD-C-541
- Canadian Specification CAN/CGSB 19.13-M87, Classification C-1-40-B-N and C-1-25-B-N, No. 81028
- CFI accepted
- * Refer to substrates in Where to Use.

Typical Properties

PROPERTY	VALUE
Service temperature range, °F (°C)	-40 to 180 (-40 to 82)
Shrinkage	Nil

Test Data

PROPERTY	RESULTS	TEST METHOD
Movement Capability, %	±35	ASTM C 719
Tensile strength, psi (MPa)	300 (2.1)	ASTM D 412
Elongation, %	800	ASTM D 412
Hardness, Shore A	25	ASTM C 661
Artificial weathering, Xenon arc, 1,000 hrs	Excellent	ASTM G 26
Low temperature flexibility, °F (°C)	-15 (-26)	ASTM C 793
Viscosity, poise	325	Brookfield

Test results are typical values obtained under laboratory conditions. Reasonable variations can be expected.

TABLE 1

Joint Width and Sealant Depth

JOINT WIDTH, IN (MM)	SEALANT DEPTH AT MIDPOINT, IN (MM)
1/4–1/2 (6–13)	1/4 (6)
1/2–3/4 (13–19)	1/4–3/8 (6–10)
3/4–1 (19–25)	3/8–1/2 (10–13)
1–1 1/2 (25–38)	1/2 (13)

4. To maintain the recommended sealant depth, install backer rod by compressing and rolling it into the joint channel without stretching it lengthwise. Closed cell backer rod should be about 1/8" (3 mm) larger in diameter than the width of the joint to allow for compression. Soft backer rod should be approximately 25% larger in diameter than the joint width. The sealant does not adhere to it, and no separate bond breaker is required. Do not prime or puncture the backer rod.

SURFACE PREPARATION

Substrates must be structurally sound, fully cured, dry and clean. Substrates should always be free of the following: dirt, loose particles, oil, grease, asphalt, tar, paint, wax, rust, waterproofing or curing and parting compounds, membrane materials and sealant residue.

NEW CONCRETE

Remove all loose material from joints by wire brushing. Sandblast surfaces in contact with form- release agents. Fresh concrete must be fully cured. Laitance must be removed by abrading.

OLD CONCRETE

For previously sealed joints, remove all old material by mechanical means. If joint surfaces have absorbed oils, remove sufficient concrete to ensure a clean surface.

PRIMING

1. For most applications, priming is not required; joints subject to periodic water immersion, however, must be primed with MasterSeal P 173. On surfaces other than concrete, conduct a test application to verify adhesion.
2. Apply primer in a thin, uniform film. Avoid buildup of excess primer.
3. Avoid applying primer beyond joint faces. To minimize the contamination of adjacent surfaces, apply masking tape before priming

and remove before the sealant has begun to thicken and set.

4. Allow approximately 15–30 minutes drying time before applying sealant (primer should be tack-free). Priming and sealing must be done on the same day.

APPLICATION

1. Fill joints by pouring the sealant from a spouted container.
2. Fill joints from the bottom; avoid bridging of the joint, which may form air voids. Sealant will self-level to form a clean joint surface.

CURING TIME

The cure of MasterSeal SL 1 varies with temperature and humidity. The following times assume 75 °F (24 °C), 50% relative humidity, and a joint 1/2" width by 1/4" depth (13 by 6 mm).

- Skins: overnight or within 24 hours
- Full cure: approximately 1 week

Yield

LINEAR FEET PER GALLON*

JOINT DEPTH, (INCHES)	JOINT WIDTH (INCHES)									
	1/4	3/8	1/2	5/8	3/4	7/8	1	1 1/2	2	3
1/4	308	205	154	122	—	—	—	—	—	—
3/8	—	—	—	82	68	58	51	—	—	—
1/2	—	—	—	—	51	44	38	26	19	12

METERS PER LITER

JOINT DEPTH, (MM)	JOINT WIDTH (MM)									
	6	10	13	16	19	22	25	38	50	75
6	24.8	16.5	12.4	9.8	—	—	—	—	—	—
10	—	—	—	6.6	5.5	4.7	4.1	—	—	—
13	—	—	—	—	4.1	3.5	3.0	2.2	1.5	0.7

LINEAR FEET PER 825 ML CARTRIDGE

JOINT DEPTH, (INCHES)	JOINT WIDTH (INCHES)						
	1/4	3/8	1/2	5/8	3/4	7/8	1
1/4	72	48	36	28.5	—	—	—
3/8	—	—	—	19.25	16	13.5	12
1/2	—	—	—	—	12	10.2	8.8

LINEAR METER PER 825 ML CARTRIDGE

JOINT DEPTH, (MM)	JOINT WIDTH (MM)						
	6	10	13	16	19	22	25
6	20.5	13.6	10.2	8.1	—	—	—
10	—	—	—	5.4	4.5	3.9	3.4
13	—	—	—	—	3.4	2.9	2.5

CLEANUP

Clean equipment with MasterSeal 990 or xylene immediately after use and before sealant has cured. Cured sealant may be removed by cutting with a sharp-edged tool, thin films by abrading.

FOR BEST PERFORMANCE

- Do not allow uncured MasterSeal SL 1 to come into contact with alcohol-based materials or solvents.
- Do not apply polyurethane sealants in the vicinity of uncured silicone sealants or uncured MasterSeal NP 150™.
- MasterSeal SL 1 is not intended for continuous water immersion. Contact Technical Service for recommendations.
- Backer rods, joint fillers and bond breakers must be tightly installed to prevent loss of sealant through joint bottoms.
- Joints subject to puncture by high heels or umbrella points require a stiffer or higher density backup material; cork or rigid non-impregnated cane-fiber joint fillers are suitable. Separate materials from the sealant by a non-adhering bond breaker (polyethylene tape).
- High temperatures or humidity may cause uncured material to bubble.
- Sealant may bubble if substrates are not dry or if material is applied too deep.
- Do not use other caulks, sand, or incompressibles as a bottom bed in a joint.
- Do not install when rain is expected before the sealant develops a substantial skin.
- For joint widths over 11/2" (38 mm), use MasterSeal SL 2.
- Proper application is the responsibility of the user. Field visits by Master Builders Solutions personnel are for the purpose of making technical recommendations only and not for supervising or providing quality control on the jobsite.

HEALTH, SAFETY AND ENVIRONMENTAL

Read, understand and follow all Safety Data Sheets and product label information for this product prior to use. The SDS can be obtained by visiting www.master-builders-solutions.com/en-us. Master Builders Solutions.us, e-mailing your request to mbsbscst@mbcc-group.com or calling 1(800)433-9517. Use only as directed.

IN CASE OF EMERGENCY: Call CHEMTEL +1 (800) 255-3924 or if outside the US or Canada, +1 (813) 248-0585.

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