



# SEVERE-SERV SEALANTS

## Description Of The Material

CIM Severe-Serv Sealants are high solids, cold liquid applied, two-component polyurethane elastomers that cure to form a chemically resistant flexible membrane with strong adhesion to concrete, asphalt and other solid surfaces. These materials are ideal joint sealants for a broad range of service applications.

CIM Severe-Serv Sealants are resistant to fuel, oil, and most other liquids and chemicals in a range of conditions and provide a high level of sealing properties for extended periods of time.

CIM Severe-Serv Sealants are especially well suited for applications requiring a tough sealant such as airport runways and taxiways. CIM Severe-Serv Sealants are available for general sealant purposes and for contact with potable water for use in reservoirs and water storage tanks. CIM Severe-Serv Sealants are fast curing. They may often be placed in highway or runway joint service within 2 hours, depending on job requirements and environmental conditions.

CIM Severe-Serv Sealants pass the following specifications for use as a severe service sealant:

- ANSI/NSF 61
- ASTM C-836
- ASTM D-412
- ASTM D-1850
- ASTM E96, METHOD E
- SS-S-200D



*CIM Severe-Serv Sealants are used at Miramar NAS, Home of the Top Gun School, as a joint sealant in concrete. Wide, narrow or severely spalled joints are filled and the sealant is resistant to fuel, oil and most other liquids and chemicals in this application.*

## Typical Uses

Sealing joints in concrete on:

- Airport aprons, ramps and cargo areas
- Roads and runways
- Courts and parking decks
- Water reservoirs
- Pre-fab walls and roofs

The greatest demands on joint sealants are due to movements caused by the fluctuating temperatures. Often this movement is not evenly distributed between all joints, and a quality CIM sealant is required to accommodate these extremes.

The elastic, rubber-like consistency of cured CIM Severe-Serv Sealants provide the extra capacity to accommodate joint movement even in extreme temperatures and severe service. Unlike hot-poured asphalt that becomes less flexible at low temperatures when joints open at their most, CIM Severe-Serv Sealants remain flexible in extreme temperatures.

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*Joints or spalls repaired with CIM Severe-Serv Sealants are tough enough to stand up to runway landing zone use while protecting concrete and asphalt from further damage.*

## Joint Design Considerations

### Joint Width

Joints are provided during construction at intervals designed to accommodate anticipated expansion and contraction. The proper width of each joint depends on such movement. See ACI 504R Guide to Sealing Joints in Concrete Structures.

CIM Severe-Serv Sealants will accept strong continual cyclic movements, that in practice are rarely evenly distributed between the existing joints.

To ensure that the sealant works within its established parameters the joints/slots should be in accordance with normal engineering practices.

### Joint Depth

Joints should be constructed to minimize the occurrence of sealant material protruding from the surface of the concrete. This may mean recessing the level of the sealant 3-6 mm (1/8"-1/4") below the top surface, depending on the temperatures prevailing at the time of application. The width/depth ratio of the CIM Severe-Serv Sealants should be at least 2:1 and the sealant should have minimum depth of 3 to 10 mm (1/8" to 3/8").

## Specification And Site Instructions

- Joint surfaces must be clean, dry and free of all debris. Remove all dust and laitance by sand blasting, grinding or wire brushing. The prepared joint surfaces should be blown out with dry, oil-free air. If moisture is suspected, dry with a weed burner or similar device.
- The sealant should be supported by properly installed backer rod with bond breaking surface.
- Apply CIM Severe-Serv Sealants when joint is close to its annual mean temperature.

## Typical Properties

### CIM 1000 Standard Grade Severe-Serv

Tensile Strength:	900 psi, 6,205 kPa
Typical Movement Accommodations:	25%
Extension to Break:	400%
Tear Strength:	150 lbs./in., 26.3 N/mm
Softening Point, Ring & Ball:	Above 325°F, 163°C
Brittleness Temperature:	Below -60°F, -50°C
Hardness:	Shore A 60
Permeability to Water Vapor, Perms:	0.03, 1.8
Adhesion to Concrete:	350 psi, 25 kg/cm <sup>2</sup>
Set Time to Polyethylene Film:	Standard Grade, 4 hrs
Pot Life at 77°F / 25°C:	30 minutes

Refer to CIM data sheets for additional properties and application procedures.



*CIM Severe-Serv Sealants are easily used for long term repair in potable water reservoirs.*



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