

## Evaluation Table

1011 Joint Materials

1011 Silicone Joint Sealant

ADOT Standard Specification: 1011-8

ADOT Stored Specification: 1011APEAS

Responsible Section: Materials Group

Material Property	Specification/ Test Method	Requirement
One Component	1011-8.01	Silicone sealant shall be furnished in a one part formulation which is non acid-curing.
Cure Evaluation	ASTM D5893	Shall cure throughout a 12.7 mm x 12.7 mm (0.5 inch by 0.5 inch) cross-section within 21 days. At 21 days $\pm$ 4 hours of curing, sealant shall not show any presence of any uncured material.
Rheological Properties	ASTM D5893 ASTM D2202	Type NS sealant shall not slump more than 7.6 mm (0.30 in).
Rheological Properties	ASTM D5893 ASTM 639	Type I sealant, Type SL sealant shall exhibit a smooth, level surface with no indication of bubbling.
Extrusion Rate	ASTM D5893 ASTM C1183	Type S sealants, the extrusion rate shall not be less than 20mL/min (1.22 in <sup>3</sup> /min).
Tack Free Time	ASTM D5893 ASTM C679	The sealant shall be tack-free, with no transfer of the sealant to the polyethylene, when tested at 5 h $\pm$ 10 min.
Effects of Heat Aging	ASTM D5893 ASTM C792	Shall not lose more than 10% of its original weight or show any cracking or chalking.
Flow	ASTM D5893	At 200 $\pm$ 2°F for 72 h $\pm$ 30 min, there shall be no flow.
Rubber Properties in Tension: Ultimate Elongation	ASTM D5893 ASTM D412	Not less than 600%
Rubber Properties in Tension: Tensile Stress	ASTM D5893 ASTM D412	Shall not exceed 310 kPa (45 psi) @ 150% elongation.
Accelerated Weathering	ASTM D5893 ASTM C793	Evidence of physical change in the surface of the material by visual and tactile examination shall constitute failure of this test.
Resilience	ASTM D5893	Not less than 75%
Bond	ASTM D5893	Non-Immersed—No specimen shall develop any crack, separation, or other opening in the sealant or between the sealant and the concrete test blocks.

<b>Material Property</b>	<b>Specification/ Test Method</b>	<b>Requirement</b>
Bond	ASTM D5893	Water-Immersed—No specimen shall develop any crack, separation, or other opening in the sealant or between the sealant and the concrete test blocks.
Bond	ASTM D5893	Oven-Aged—No Specimen shall develop any crack, separation, or other opening in the sealant or between the sealant and the concrete test blocks.
Hardness	ASTM D5893 ASTM C661	At $-20 \pm 2^{\circ}\text{F}$ , using a Type A-2 durometer, the hardness shall not exceed 25.
Hardness	ASTM D5893 ASTM C661	At $73.4 \pm 3.6^{\circ}\text{F}$ , using a Type 00 durometer, the hardness shall not be less than 30.
Labeling	1011-8.02	The label shall be tamper-proof, non-removable and shall be legibly marked with the manufacturer's name, the trade name of the sealant, the manufacturer's batch or production lot number, and the expiration date of the manufacturer's shelf life warranty.
Field Performance	1011-8.03 1011APEAS	The manufacturer of the joint sealant shall demonstrate satisfactory field performance in Arizona, or by AASHTO Product Evaluation & Audit Solutions (formerly NTPEP) field evaluation, of less than 1 percent total failure (either within the material or the adhesive bond to the joint face) after one year of service, before the material shall be used.