## Section 712. — JOINT MATERIAL

01 APR 2025 – FP-24

### 712.01 Sealants, Fillers, and Seals.

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Include the following when pre-compressed foam-supported silicone joint seals are required.

Delete Subsections (h) and (i) and substitute the following:

**(h)** **Pre-compressed foam-supported silicone joint seal.** Provide a joint system comprised of the following:

* 1. Cellular polyurethane foam impregnated with hydrophobic 100 percent acrylic, water-based emulsion, factory coated with highway-grade, fuel resistant silicone conforming to Table 712-3.
	2. Field-applied epoxy adhesive primer conforming to Table 712-4.
	3. Field-injected silicone sealant bands conforming to Table 712-5.

**Table 712-3**

**Impregnated Foam Requirements**

|  |  |  |
| --- | --- | --- |
| **Property** | **Test Method** | **Minimum Requirement** |
| Base material | – | Cellular, high density, polyurethane foam |
| Tensile strength | ASTM D3574 | 18 psi |
| UV and moisture resistance | ASTM G155 | No changes - 2000 hours, Pass |
| Density | ASTM D545 | 4 lb./cu. ft. |
| Elongation | ASTM D3574 | 125% |
| Temperature service range | ASTM C711 | -40 to 185 °F |

**Table 712-4**

**Epoxy Adhesive Requirements**

|  |  |  |
| --- | --- | --- |
| **Property** | **Test Method** | **Minimum Requirement** |
| Tensile strength | ASTM D638 | 3500 psi |
| Shear strength | ASTM D732 | 3000 psi |
| Bond strength | ASTM D882 | 2500 psi |
| Compressive strength | ASTM D695 | 8000 psi |

**Table 712-5**

**Silicone Sealant Bands Requirements**

|  |  |  |
| --- | --- | --- |
| **Property** | **Test Method** | **Requirement** |
| Color | Visual | Black |
| Movement capability | ASTM C719 | ±50% |
| Elongation | ASTM D412 | > 600% |
| Tensile strength | ASTM D412 | ≥ 100 psi |

**(i) Reserved.**

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Include the following on AK DOT&PF Projects when Section 564 work is required.

Add the following:

**(k) Expanded polyethylene.** Use closed-cell expanded polyethylene with a density of at least 2.1 lb/ft3 as determined by ASTM D3575 and with a minimum compressive stress of 9 psi at 25 percent deflection as determined by ASTM D3575.