# Material Properties

## Low Durometer Silicone (VMQ, S40)

## Material code: 604

**NOTE -** All testing done on AS568-214 size O-rings

| **Original Properties** | **AMS-3304; A-A-59588 (ZZ-R-765) Class 2A, 2B Grade 40** | **Typical Values** |
|---|---|---|
| Hardness, Shore A, ASTM D2240 | 40 ± 5 | 41 |
| Tensile Strength, psi, ASTM D412 Die C | 700 min. | 1022 |
| Ultimate Elongation, %, ASTM D412 Die C | 250 min. | 532 |
| Tear Resistance, lbf/in, ASTM D624 Die B | 55 min. | 94 |
| Specific Gravity, g/cc, ASTM D297 | Report | 1.16 |
| **Air Aging, ASTM D573, 70 hrs. at 437°F** | | |
| Hardness change, Shore A, ASTM D2240 | +10 max. | +5 |
| % Tensile Strength change, ASTM D412 Die C | -20 max | -15 |
| % Elongation change, ASTM D412 Die C | -40 max. | -21 |
| **Compression Set, ASTM D395 Method B, 70 hrs. at 302°F** | | |
| % Permanent set | 25 max. | 14 |
| % Permanent set | 40 max. | 14 |
| **Water Immersion, ASTM D471, 70 hrs. at 212°F A-A-59588 Class2A, 2B Grade 70** | | |
| % Volume change, ASTM D471 | +10 max. | +2 |
| **ASTM #1 Oil Immersion, ASTM D471, 70 hrs. at 302°F** | | |
| Hardness change, Shore A, ASTM D2240 | -15 to +5 | -5 |
| % Tensile Strength change, ASTM D412 Die C | -25 max. | -8 |
| % Elongation change, ASTM D412 Die C | -20 max. | -12 |
| % Volume change, ASTM D471 | 0 to +15 | +12 |
| Decomposition per AMS-3304 | None | None |
| Surface tack per AMS-3304 | None | None |
| **Low Temperature Brittleness, ASTM D2137** | | |
| 3 minutes at -85°F | No cracks | Pass |

**Note:** *Property values should be interpreted as typical rather than minimum value.* All technical information and recommendations are presented in good faith, and based upon laboratory and real-world tests believe to be reliable and practical. However, K.C. Seals, Inc. cannot guarantee the accuracy or completeness of this information, and it is the customers' responsibility to determine product suitability to any given application.

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