

TECHNICAL SPECIFICATIONS FOR GASKETS MANUFACTURED

| No. | Requirements | Tests to be carried out | Results to be obtained | Test equipment | Results obtained |
|-----|---|--|--|--|--|
| 1 | Seal at - 40° C | Exposure of product to - 40° for 12 h. | No cracks or weakening of the structure. | Stereoscopic microscope G: 20X | No cracks or weakening of the structure. No tearing of the structure. Seal to IP X6 standard after testing. |
| 2 | Seal at + 70° C | Exposure of product to + 70° for 24 h. | No separation from the support or weakening of the structure. | Stereoscopic microscope G: 20X | No separation from the support or weakening of the structure. Seal to IP X6 standard after testing. |
| 3 | Impermeability | Immersion of product for 2 hours under 5 cm of water. | Water absorption < 5% of the nominal weight of the gasket (weighing before and after). | Precision balance 0.01 g | Water absorption no more than 2%. |
| 4 | Load strength | Measurement of the force required to sink a 100 mm long blade on a thickness of 1.5 mm up to the required height. | with H = 3.3 mm F--> <4 daN. | Dynamometer | Measurement on an average of 24 parts: 3 daN. |
| 5 | Elastic flow | Compression F applied to the gasket for 22 hours at 70° C. | 10 min after relaxation to ambient, residual deformation must not exceed more than 10% of the initial thickness of the gasket. | Gauge | After exposure to pressure for 22 hours at 70° C, residual deformation is less than 10%. |
| 6 | Adhesion to epoxy-polyurethane paints | Pre-conditioning for 24 hours at 20° C, peeling at 90° C. Tearing of gasket at a tensile strength of 1 m/min. | Tear strength must be > 2.5 N for each cm of width of the gasket. | Special equipment | Good adhesion obtained without dusting the support before fitting the gasket. |
| 7 | Fire resistance | Incandescent wire test according to NF 20455 at 550°. | t <30s after removing the wire. | Incandescent wire * chronometer | Gasket classified 550° C/30 seconds. |
| 8 | Sealing | IP 55 - IP 60 | No infiltration into the protected volume. | S ^{VT} at 070 | IP 60 where IP 55 requested and IP 60 where IP60 requested. |
| 9 | Ozone resistance | 70 h at an ozone concentration of 50 ppm at a temperature of 38° C, in conformity with Fiat standard 50417, with gasket in operating condition | No cracks visible with 6X magnification | Stereoscopic microscope G: 6X | At the end of the test, none of the 3 sections of gasket exposed to ozone presented visible cracks when magnified 6 times. According to the classification provided for by the standard, all parts are constructed to merit index 6. |
| 10 | Resistance to thermal cycles | 10 cycles each consisting of 4 h at 90 +/- 2° C, 4 h at -40 +/- 2° C | No cracks visible at 2X magnification. Reduction of properties < 25%. Test under operating conditions. 24h in waterbox, no infiltration allowed. | Stereoscopic microscope G: 2X Dynamometer | Waterbox test on new parts: OK. Waterbox test after accelerated ageing: OK. |
| 11 | Resistance to humid heat | 200 h at 40 +/- 2° C with R.H. > 90% | | | |
| 12 | Resistance to heat shock | 1 h at 120° +/- 2° C 2 h at 100° +/- 2° C | | | |
| | Tests 1 to 8 carried out at the Legrand Normandie laboratories in France. | Test 9 carried out at the Prototipo Spa laboratories in Turin, on behalf of Webasto Spa. | Tests 10 to 12 carried out at the Webasto laboratories, Turin. | | |