

**OZONE RESISTANCE OF THE TYRE SIDEWALLS****Application**

This method is used to assess the ozone resistance of passenger vehicle tyre sidewalls under static conditions.

**Apparatus Required****Ozone Generator and Test Chamber**

Capable of maintaining ozone concentration of 50 p.p.h.m.  $\pm$  5 (by volume) and a temperature of  $38 \pm 1$  °C with the necessary measuring and control devices, as described in FLT M EU BP 101-01. The nominal ozonised air velocity over the surface of the specimen must be 60 cm per second.

**Clamping Device**

As shown in Figure B.

**Magnifying Glass**

X2.

**Conditioning and Test Conditions**

All test values indicated herein are based on material conditioned in a controlled atmosphere of  $23 \pm 2$  °C and  $50 \pm 5$  % relative humidity for not less than 24 h prior to testing and tested under the same conditions unless otherwise specified.

**Procedure**

1. Cut 3 test specimens radially from the sidewall of the tyre under test. The bead wire must not be removed (see Figure A)

Note: The part of the specimen adjacent to the shoulder of the tyre must not exceed 10 mm thickness, and when necessary the outer face of the part must be ground or cut to give the required maximum thickness. Ensure that the temperature of the ground surface does not exceed 40 °C during the grinding operation. All cut and ground surfaces must be coated with an elastic ozone resistant compound.

| Date       | Action  | Revisions                                  |
|------------|---------|--------------------------------------------|
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2. Place the specimens in the test fixture, ensuring that they are a minimum of 20 mm apart (see Figure B).
3. Condition specimens for 72 hours in the dark at 20 +/- 2 °C, in an atmosphere substantially free of ozone.
4. Immediately place the fixture into the ozone chamber maintained at 50 p.p.h.m. +/- 5 of ozone, a temperature of 38 +/- 1 °C and a nominal ozonised air velocity over the surface of the specimen of 60 cm per second, for a period of 70 hours.

### **Evaluation**

After exposure, remove the specimens retained in the fixture and examine.

### **Classification of Rating**

### **Interpretation**

|   |                                                                                      |
|---|--------------------------------------------------------------------------------------|
| 0 | No checking or cracking visible under 2X magnification.                              |
| 1 | Checking or cracking not visible to the unaided eye but visible at 2X magnification. |
| 2 | Small cracks visible to the unaided eye.                                             |
| 3 | Medium size cracks or checks visible to the unaided eye.                             |

Chemicals, materials, parts, and equipment referenced in this document must be used and handled properly. Each party is responsible for determining proper use and handling in its facilities.