



Elastomer for Damping Parts Chassis

1 Scope

1.1 Material Description. This standard covers the materials and performance of elastomeric materials used for damping parts in chassis applications (e.g., bushings, strut mounts, and stabilizer bearings).

1.1.1 Materials covered by this standard are divided into the following Types:

1.1.2 Type A. Elastomer up to +70 °C.

1.1.3 Type B. Drawing defined (e.g., using SAE J200 or ASTM D2000 line callout).

1.2 Symbols. Not applicable.

1.3 Applicability. Rubber parts for damping purposes in chassis applications.

2 References

Note: Only the latest approved standards are applicable unless otherwise specified.

2.1 External Standards/Specifications.

ASTM D2000	ISO 188	ISO 1431-1	ISO 23529
ISO 48	ISO 815	ISO 7619-1	SAE J200

2.2 GM Standards/Specifications.

GMW3059

3 Requirements

3.1 Resources.

3.1.1 Test Samples. Unless otherwise specified, the shape, size and number of test pieces shall be in accordance with the relevant test procedure.

Unless otherwise specified, samples are finished parts or to be taken from finished parts. Where the dimensions on the finished parts do not allow preparing of test pieces, tests are to be performed on sheet material of same production batch. The same state of cure between slabs or buttons and finished parts must be ensured by appropriate tests, which must be described in the test report.

Unless otherwise stated, ambient temperature test conditions shall be held to +23 °C ± 5 °C, all other temperatures shall be held to ± 3 °C. If not otherwise stated, mechanical properties in delivery state and after heat or fluid immersion are to be tested at +23 °C and with the same test procedures.

3.1.2 Conditioning. Conditioning shall be as specified in the relevant test procedures.

3.1.3 Equipment. Conforming to the relevant test procedures.

3.1.4 Calibration. The test facilities and equipment shall be in good working order and shall have a valid calibration label.

3.1.5 Alternatives. Alternative test facilities and equipment may also be used. However, all measuring variables as specified in this specification shall be determined correctly with respect to its physical definition.

3.1.6 Facilities. Conforming to the relevant test procedures.

3.1.7 Deviations. Deviations from the requirements of this standard shall have been agreed upon. Such deviations shall be specified on component drawings, test certificates, reports, etc.

3.2 Material and Performance Requirements. Material and performance requirements are summarized in Table 1.

Table 1: Material and Performance Properties

Property	Test Method	Unit	Value
Hardness			
Type A	ISO 7619-1 ISO 48	Shore A IRHD	Nominal Value ^{Note 1} As specified on drawing
Type B	As specified on drawing/math data file	Shore A	Nominal Value ^{Note 1} As specified on drawing
Age Resistance (Heat Aging)			
Type A	ISO 188 Method B, 168 -2 h at +70 °C ± 3 °C Change in Hardness	Shore A/IRHD	+10 Maximum
Type B	As specified on drawing/math data file		As specified on drawing
Compression Set			
Type A	ISO 815 test piece Type B +70 °C ± 3 °C, 24 h -2 h, 25% compressed	%	30 Maximum
Type B	As specified on drawing/math data file	%	As specified on drawing
Ozone Resistance			
Type A	ISO 1431-1, 50 pphm, 25 °C ± 2 °C, 20% strain, 72 h -2 h visual examination		No cracks permissible
Type B	As specified on drawing/math data file		As specified on drawing
Cold Resistance			
Type A	ISO 23529, -30 °C ± 3 °C; 5 h +1 h Change in Hardness For initial hardness ≤ 64 Shore A For initial hardness ≥ 65 Shore A	Shore A Shore A	+20 Maximum +15 Maximum
Type B	As specified on drawing/math data file		As specified on drawing

Note 1: Nominal hardness implies a tolerance of ± 5 Shore A/IRHD, the specific dynamic rate of the finished part overrides the hardness requirement.

4 Manufacturing Process

Not Applicable

5 Rules and Regulations

5.1 Legal Regulations. All materials must satisfy applicable laws, rules, regulations and recommendations valid in the country of usage.

5.2 Language. In the event of conflict between the English and domestic language, the English language shall take precedence.

5.3 Inspection and Rejection. Samples of components or materials released to a GM material specification shall be tested for conformity with the requirements of this material specification and approved by the responsible Engineering department prior to commencement of delivery of bulk supplies.

A new approval must be received for any changes, e.g., properties, manufacturing process, location of manufacture, etc. If not otherwise agreed, all testing and documentation normally required for initial release must be completed.

It is the responsibility of the supplier to inform the customer in a timely manner, without solicitation, and to include documentation of all modifications of materials and/or processes and to apply for a new release.