



Low Pressure Air Injection Reactor Tubing

1 Scope

This specification covers rubber tubing for air injection reactor usage and rubber tubing for carrying low pressure air, and which is intended to withstand continuous service temperatures from (-40 to +125) °C. The rubber materials described by this specification are not suitable for the transport of air contaminated with fuel, oil, or other hydrocarbons.

1.1 Material Description.

1.1.1 Material Identification.

1.1.1.1 Rubber Tube Material. Must consists of Ethylene Propylene Diene Monomer (EPDM). Must meet Material Requirements of Table 2 and Performance Properties of Table 3.

1.1.1.2 Construction. The tubing shall be constructed of a single extrusion of Ethylene Propylene Diene Monomer (EPDM) rubber. The tubing shall be black.

1.1.1.3 Dimensions and Tolerances. The recommended standard dimensions and tolerances for this tubing, and metal fittings used for the system, are as indicated in Table 1.

Table 1: Standard Dimensions and Tolerances

Tubing Inner Diameter (ID) (mm)	Tubing Outer Diameter (OD) (mm)	Fitting OD (mm)
14.60 - 15.60	22.60 - 24.20	15.60 - 16.20
17.75 - 8.75	26.55 - 28.15	18.75 - 19.35

1.1.1.4 Tube Marking. The tube shall be legible marked with the following information: Association for Rubber Products Manufacturers (ARPM) identification code and date code. Such marking shall be printed parallel to the axis in block letters not < 3 mm high and the open space between the specified markings shall not be > 25 mm.

1.1.1.4.1 The date code shall consist of six digits: The first two digits shall represent the month (01 through 12) of the year, the next two shall represent the day of the month (01 through 31), and the last two shall be the last two digits of the year.

1.2 Symbols. Not applicable.

1.3 Applicability. Elastomeric tubing for air injection reactor tubing.

2 References

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

2.1 External Standards/Specifications.

ASTM D380	ASTM D573	ISO 48	ISO 815-1
ASTM D395	ISO 37	ISO 188	ISO 1431-1

2.2 GM Standards/Specifications.

GMW3059	GMW14270	GMW16317	GMW17557
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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 method.

Unless otherwise specified, samples are finished parts or to be taken from finished parts. **Note:** 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 assured by appropriate tests, which must be described in the test report.

Unless otherwise stated, ambient temperature test conditions shall be held to $(+23 \pm 5) ^\circ\text{C}$, all other temperatures shall be held to $\pm 3 ^\circ\text{C}$. If not otherwise stated, mechanical properties in delivery state and after heat or fluid immersion are to be tested at $+23 ^\circ\text{C}$ and with the same test methods.

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

3.1.3 Equipment. Conforming to the relevant test method.

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 method.

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

3.2 Dimensions and Tolerances. Hose dimensions and tolerances shall be as specified by the purchaser.

3.3 Cover Material Marking. The cover material shall be legibly marked with the GM part number, Date Code of Manufacture, Source ID per the ARPM and the GM specification (GMW17554).

3.4 Material and Performance Requirements. Material and performance requirements are summarized in Table 2 and Table 3.