



Standard Specification for Rubber Latex Products for Automotive Applications¹

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1. Scope

1.1 This specification covers dipped goods and coatings made from compounded latex. Products manufactured from this material include boots, coated clips, coated sponge parts, and coated fabrics for automotive applications.

1.2 The compounds listed in Table 1 and Table 2 are grouped in classifications based primarily on physical properties, which are prescribed in the tables. These values, together with any additional requirements indicated by suffix letters in the grade designations as described in Section 2, define the properties of the compounds after vulcanization. These values apply to test specimens obtained from standard laboratory-dipped films prepared in accordance with procedures described in the applicable ASTM methods. **Test results from finished products may not duplicate the values obtained from standard test films.** When differences due to the difficulty in obtaining suitable test specimens from the finished part arise, the purchaser and the supplier may agree on acceptable deviations. This can be done by comparing results obtained on standard test films with those obtained on actual parts.

1.3 The values stated in SI units are to be regarded as the standard. The values given in parentheses are for information only.

2. Referenced Documents

2.1 ASTM Standards:

- D 412 Test Methods for Vulcanized Rubber and Thermoplastic Rubbers and Thermoplastic Elastomers—Tension²
- D 471 Test Method for Rubber Property—Effect of Liquids²
- D 573 Test Method for Rubber—Deterioration in an Air Oven²
- D 746 Test Method for Brittleness Temperature of Plastics and Elastomers by Impact³
- D 925 Test Methods for Rubber Property—Staining of Surfaces (Contact, Migration, and Diffusion)²
- D 2240 Test Method for Rubber Property—Durometer Hardness²

¹ This specification is under the jurisdiction of ASTM Committee D-11 on Rubber and is the direct responsibility of Subcommittee D11.30 on Classification of Rubber Compounds.

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² Annual Book of ASTM Standards, Vol 09.01.

³ Annual Book of ASTM Standards, Vol 08.01.

TABLE 1 Physical Requirements of Type LR Compounds, Non-Oil Resistant

	Grade No. LR420
Durometer hardness, points	45 ± 5
Tensile strength, min, MPa (psi)	14.0 (2000)
Ultimate elongation, min, %	500
Heat aged 70 h at 70°C (158°F)	
Change in durometer hardness, max	±5
Tensile strength, min, MPa (psi)	10.5 (1500)
Ultimate elongation, min, %	400
Permanent set, max at 400 % elongation, %	10

D 5964 Practice for Rubber IRM 902 and IRM 903 Replacement Oils for ASTM No. 2 and ASTM No. 3 Oils²

3. Types, Classes, and Grades of Compounds

3.1 *Types*—This specification covers two types of compounds designated by the prefix letters *LR* and *LS*, as follows:

3.1.1 *Type LR*—Compounds made from natural rubber, synthetic rubber, or rubber-like materials, alone or in combination, for services where specific resistance to the action of petroleum-base fluids is not required.

3.1.2 *Type LS*—Compounds made from synthetic rubber or rubber-like materials for services where specific resistance to the action of petroleum-base fluids is required.

TABLE 2 Physical Requirements of Type LS Compounds, Class LSC, Oil Resistant

	Grade No. LSC515
Basic requirements:	
Durometer hardness, points	55 ± 5
Tensile strength, min, MPa (psi)	10.5 (1500)
Ultimate elongation, min, %	400
Oil immersion 22 h at 100°C (212°F)—ASTM Oil No. 2: ⁵	80
Volume change, max, %	
Heat aged 70 h at 100°C (212°F)	+ 10
Change in durometer hardness, max	8.5 (1200)
Tensile strength, min, MPa (psi)	300
Ultimate elongation, min, %	20
Permanent set, max at 300 % elongation, %	
Added requirements:	50
Suffix E2, 22 h at 100°C (212°F) in ASTM Oil No. 2: ⁵	
Volume change, max, %	