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DIMENSIONS
GROUP**

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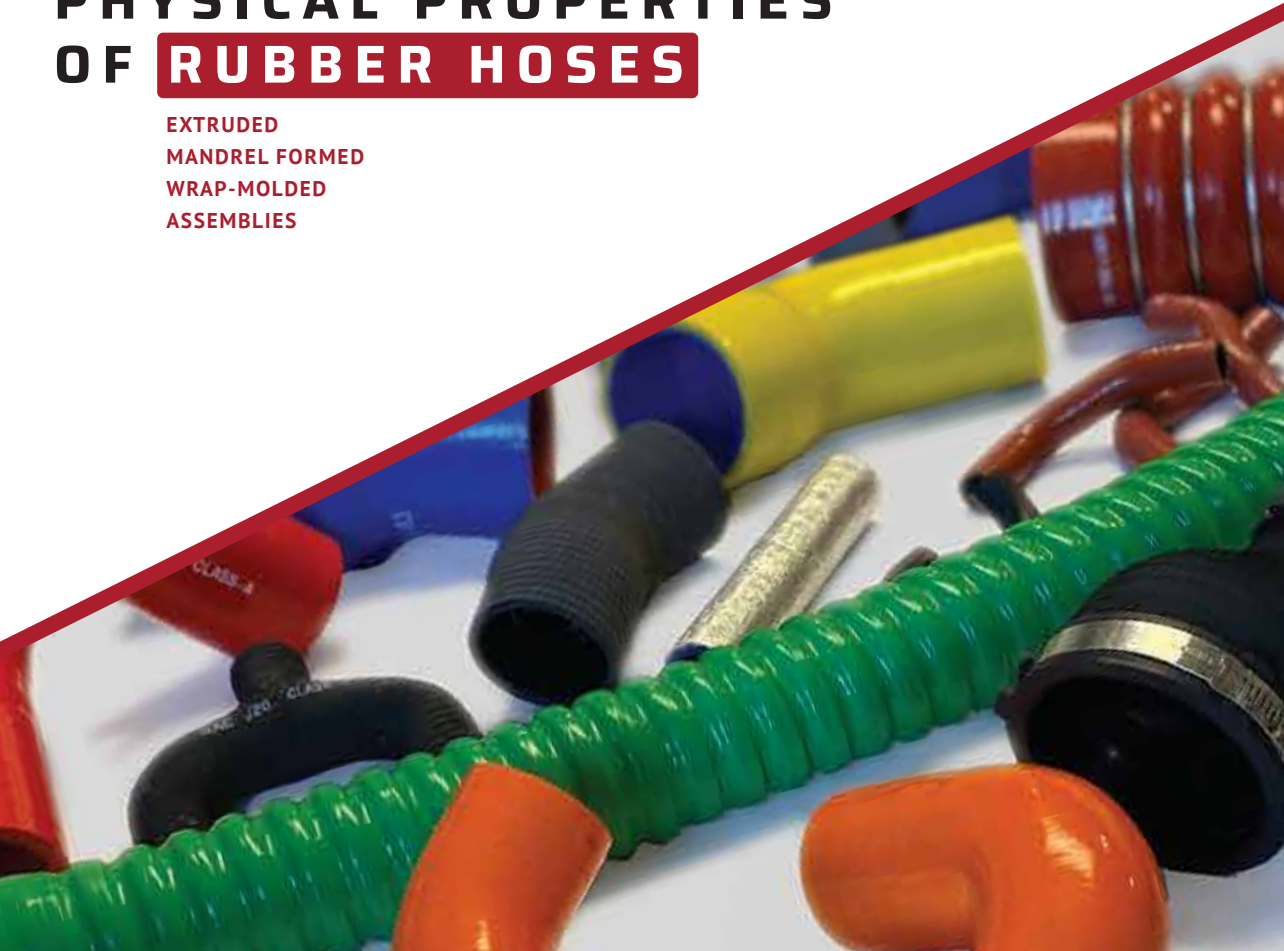
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PHYSICAL PROPERTIES OF **RUBBER HOSES**

EXTRUDED
MANDREL FORMED
WRAP-MOLDED
ASSEMBLIES



PHYSICAL PROPERTIES OF RUBBER HOSES

MATERIALS	TYPE	TEMPERATURE RANGE	BURST RANGE (MINIMUM - MPa)
20R4 (Class A)	Silicone - High Temperature	-67 - 347°F (-55 - 175°C)	0.27 - 1.24
20R4 (Class B)	NBR - Very Good Fuel Filter and Oil Type Applications	-40 - 212°F (-40 - 100°C)	0.27 - 1.24
20R4 (Class C)	Neoprene - Medium Oil Resistant Applications	-40 - 212°F (-40 - 100°C)	0.27 - 1.24
20R4 (Class D1)	Radiator Hose (Normal Service - EPDM)	-40 - 257°F (-40 - 125°C)	0.27 - 1.24
20R4 (Class D2)	Heater Hose (Normal Service - EPDM)	-40 - 257°F (-40 - 125°C)	0.27 - 1.24
20R4 (Class D3)	Radiator Hose - High Temperature (EPDM - Peroxide Cure)	-40 - 302°F (-40 - 150°C)	0.27 - 1.24
20R4 (Class E)	Heater Hose (Normal Service, EPDM - Electrochemical)	-40 - 257°F (-40 - 125°C)	0.27 - 1.24
30R6	Medium Oil Resistant Applications	-40 - 212°F (-40 - 100°C)	0.5 - 1.72
30R7	Higher Temperature and More Oil Resistant Than 30R6)	-40 - 257°F (-40 - 125°C)	1.2 - 1.72

NOTE: Vacuum range per SAE. If required, a wire helix (spring) to be specified

TOLERANCES:

Radiator Hoses (20R4): Unless otherwise stated, all tolerances (ID, wall gauge, length, etc.) will be standard SAE commercial tolerances. Special tolerances should be discussed with Engineering.

1. Wall Gauges - Per SAE (Typical)

- (a) $\leq 50.8\text{mm}$ wall gauge average = 4.80 (4.3-5.6)
- (b) $> 50.8\text{mm}$ wall gauge average = 5.35 (4.3-6.4)

2. Tolerances ID (Typical)

- (a) $\leq 70\text{mm}$ ID use +/- .8mm
- (b) $> 70\text{mm}$ ID use +/- 1.6mm

CONSTRUCTION CAPABILITIES & PREFERENCES:

1. ID's

- (a) Can't produce hose larger than 3" finished ID (with 5-6mm wall)
- (b) Use single ID hose, when possible
- (c) **Expanded ID** (Belled Hose) Per SAE; expanded end no larger than 33% of the small ID of the hose (Ideal for manufacture)
 - (1) Wall gauges change with enlarged ends, and within bends of the radius.
This difference should not be more than 33% smaller (SAE reference)
 - (2) Bell shaped ends - taper/blending preferred
 - (a) Bell end thickness and tolerances will vary from the original extruded ID (theoretically)

2. Bend Radius

- (a) **< 2" ID** - the minimum bend radius should be no less than 1.5x the ID of the hose
- (b) **> 2" ID** - the minimum bend radius should be no less than 1x the ID of the hose