Section 4195. Bearing Pads

4195.01 LEAD.

Furnish sheet lead for bearing areas meeting the requirements of ASTM B 29.

4195.02 NEOPRENE BEARING PADS.

A. Fabricate the elastomer portion of the pad from new neoprene. Cast pads under heat and pressure. They may be individually molded to the size and shape specified in the contract documents, or they may be cut from pressure cast stock. Ensure cut edges are at least as smooth as ANSI 250 finish. Variations in dimensions shown are not to exceed the values in Table 4195.02-1:

Table 4195.02-1: Maximum Dimension Variations

	Nonlaminated	Laminated
Thickness	+ 1/16 inch (2 mm)	+ 1/8 inch (3 mm)
Width	- 1/8 inch, + 1/4 inch (-3 mm, + 6 mm)	- 1/8 inch, + 1/4 inch (-3 mm, + 6 mm)
Length	- 1/8 inch, + 1/4 inch (-3 mm, + 6 mm)	- 1/8 inch, + 1/4 inch (-3 mm, + 6 mm)

B. Furnish pads in one piece, not laminated in any manner, unless specified otherwise in the contract documents.

C. If pads are laminated, they are to have alternate laminations of neoprene and rolled steel sheets molded together as a unit. Unless required otherwise, meet the following requirements for pads:

1. The thickness of metal laminations: in the range of 14 gage to 1/8 inch (1.5 mm to 3.5 mm) inclusive.

2. Outer laminations of neoprene: 1/4 inch (6 mm).

3. Edges of all metal laminations covered by a minimum of 1/8 inch (3 mm) of neoprene, except at laminate restraining devices and around holes that will be entirely closed on the finished structure.

D. For the neoprene in laminated pads, meet the requirements in Table 4195.02-2, as specified by the Engineer. Compounds of nominal hardness between the values shown may be used, and test requirements interpolated. For homogeneous pads, the neoprene is to meet the requirements of Table 4195.02-2, using a durometer hardness of 70 unless the Engineer specifies otherwise.

Table 4195.02-2: Neoprene Requirements

ASTM Standard	Physical Properties	50 Duro.	60 Duro.	70 Duro.
D 2240	Hardness	50 + or - 5	60 + or - 5	70 + or - 5
D 412	Tensile Strength, minimum psi (MPA)	2250 (15.5)	2250 (15.5)	2250 (15.5)
	Ultimate elongation, minimum %	400	350	300

D 573 70 hr. 212°F (100°C)	**Heat Resistance** Change in durometer hardness, maximum points Change in tensile strength, maximum % Change in ultimate elongation, maximum %	+15 -15 -40	+15 -15 -40	+15 -15 -40
D 395 Method B	**Compressive Set** 22 hours @ 212°F (100°C), maximum %	35	35	35
D 1149 20% strain	**Ozone** 100°F ± 2°F (38°C ± 1°C), 100 hours 100 pphm ozone in air by volume	No Cracks	No Cracks	No Cracks
D 429, B	**Adhesion** Bond made during vulcanization minimum lbs. per inch (N/mm)	40 (7)	40 (7)	40 (7)
D 746 Procedure B	**Low Temperature Test** Brittleness at -40ºF (-40ºC)	No Failure	No Failure	No Failure
Ensure laminates are fabricated from rolled mild steel sheets conforming to ASTM A 1011/A 1011M, Grade 33; Grade 36, Type 1 and 2; or Grade 40, unless the Engineer specifies otherwise.				

E. When test specimens are cut from a finished product, a 10% variation in physical properties will be allowed.