

SUBMITTAL RECORD \_\_\_\_\_  
 JOB \_\_\_\_\_  
 LOCATION \_\_\_\_\_  
 SUBMITTED TO \_\_\_\_\_  
 SUBMITTAL PREPARED BY \_\_\_\_\_  
 APPROVED BY \_\_\_\_\_  
 DATE \_\_\_\_\_



# Submittal Form UL723 Neoprene Gasket



## DESCRIPTION

Wherever flanges are used in connecting parts of a duct system, the potential for air leakage exists. Besides contributing to energy waste, leaks can also create noise. Sealing of ductwork can be accomplished with the use of neoprene gasket which adheres to flanged surfaces. When this material is attached to a flange which is then assembled to a second flange, the material is compressed and fills gaps and irregularities creating a seal.

## TYPICAL PROPERTIES

**Type:** Closed-cell, NBR/PVC  
**Polymer:** NBR/PVC  
**Color:** Black  
**ASTM D1056 Classification:** 2B1 (C1,F1,M)  
**Density:** 3-6 lb/ft<sup>3</sup>  
**Compression Resistance @ 25%:** 2-4 psi  
**Compression Set @ 50%:** 30% max  
**Tear Strength:** 4.5 lbs./in. min  
**Tensile:** 30 psi min  
**Elongation:** 100% min.  
**Water Vapor Permeability:** <0.01 Perm-in  
**Water Absorption:** 10% max  
**Fluid Immersion:** 100% max  
**Flammability:** 25/50 Rated (up to 2'') - ASTM E84  
 Listed - UL 94 HF-1, V-0, 5VA  
 Pass - FMVSS-302  
 Pass - FAR 25.853  
**Flame Spread Index:** 25  
**Smoke Developed Index:** 50  
**Service Temperature:** -297°F (Static Application)  
 -40°F (Flexibility) - ASTM D1056  
 +220°F - ASTM C411 (Hot Surface)  
**Thermal Conductivity (75°F):** 0.24 BTU-IN/HR-FT<sup>2</sup>-°F

## MEETS

ASTM C534 Grade 1, MIL-P-15280 (Form S)

UL723 NEOPRENE			
ITEM#	CODE	DESCRIPTION	LENGTH
6339	BN1812UL723	1/8" x 1/2"	50'/RL
6340	BN1434UL723	1/4" x 3/4"	50'/RL
6341	BN3834UL723	3/8" x 3/4"	25'/RL
6343	BN51634UL723	5/16" x 3/4"	50'/RL
6344	BN3161UL723	3/16" x 1"	50'/RL

## SUGGESTED SPECIFICATIONS

All flanged joints shall be sealed with gasketing, coded \_\_\_\_\_ as supplied by Duro Dyne Corporation.

## RELATED SMACNA RECOMMENDATIONS\*

### 1.4.1 - Duct Sealing

Ducts must be sufficiently airtight to ensure economical and quiet performance of the system. It must be recognized that airtightness in ducts cannot, and need not, be absolute (as it must be in a water piping system). Codes normally require that ducts be reasonably airtight. Concerns for energy conservation, humidity control, space temperature control, room air movement, ventilation, maintenance, etc., necessitate regulating leakage by prescriptive measures in construction standards. Leakage is largely a function of static pressure and the amount of leakage in a system is significantly related to system size. Adequate airtightness can normally be ensured by a) selecting a static pressure, construction class suitable for the operating condition, and b) sealing the ductwork properly.

The designer is responsible for determining the pressure class or classes required for duct construction and for evaluating the amount of sealing necessary to achieve system performance objectives. It is recommended that all duct constructed for the 1 in. (250 Pa) and 1/2 in. (125 Pa) pressure class meet Seal Class C. However, because designers sometimes deem leakage in unsealed ducts not to have adverse effects, the sealing of all ducts in the 1 in. (250 Pa) and 1/2 in. (125 Pa) pressure class is not required by this construction manual. Designers occasionally exempt the following from sealing requirements: small systems, residential occupancies, ducts located directly in the zones they serve, ducts that have short runs from volume control boxes to diffusers, certain return air ceiling plenum applications, etc. When Seal Class C is to apply to all 1 in. (250 Pa) and 1/2 in. (125 Pa) pressure class duct, the designer must require this in the project specification. The designer should review the *HVAC Air Duct Leakage Test Manual* for estimated and practical leakage allowances.

Seven pressure classes exist [1/2 in. (125 Pa), 1 in. (250 Pa), 2 in. (500 Pa), 3 in. (750 Pa), 4 in. (1000 Pa), 6 in. (1500 Pa), and 10 in. wg (2500 Pa)]. If the designer does not designate pressure class for duct construction on the contract drawings, the basis of compliance with the SMACNA *HVAC Duct Construction Standards* is as follows: 2 in. wg (500 Pa) for all ducts between the supply fan and variable volume control boxes and 1 in. wg (250 Pa) for all other ducts of any application.

Some sealants can adversely affect the release function of breakaway connections to fire dampers; consult the damper manufacturer for installation restrictions.

Seal Class	Sealing Requirements	Applicable Static Pressure Construction Class
A	Class A: All Transverse joints, longitudinal seams, and duct wall penetrations	4 in. wg and up (1000 Pa)
B	Class B: All Transverse joints and longitudinal seams only	3 in. wg (750 Pa)
C	Class C: Transverse joints only	2 in. wg (500 Pa)

In addition to the above, any variable air volume systems duct of 1 in. (250 Pa) and 1/2 in. wg (125 Pa) construction class that is upstream of the VAV boxes shall meet Seal Class C

\*From SMACNA *HVAC Duct Construction Standards Metal and Flexible • Third Edition • 2005*

Duro Dyne Corporate Headquarters, Bay Shore, NY  
 631-249-9000 • Fax: 631-249-8346

Duro Dyne Midwest • Duro Dyne West • Duro Dyne Canada  
 www.durodyne.com • E-mail: durodyne@durodyne.com



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 Printed in USA 7/8/2021  
 BO050027