

Geofoam No. 5006

Subject: Proposed AASHTO Geofoam Specification

Date: April 2010 (Revised January 2019)


PowerFoam R-Control Geofoam is a cellular plastic material manufactured in block form to meet ASTM D6817, "Standard Specification for Rigid, Cellular Polystyrene Geofoam." The ASTM D6817 specification is the only consensus based standard available for Geofoam.


However, an alternative proposed Geofoam specification is referenced on some highway/transportation projects. This proposed specification is found in NCHRP publication 529, "Guideline and Recommended Standard for Geofoam Applications in Highway Embankments". NCHRP 529 includes a section called "Recommended EPS-Block Geofoam Standard for Lightweight Fill in Road Embankments and Bridge Approach Fills on Soft Ground". The proposed specification

is commonly referred to as the "AASHTO Geofoam Specification", although the specification has not been formally published by AASHTO.

The key performance property required in ASTM D6817 and the proposed AASHTO Geofoam Specification is equivalent despite being described with different language. Compressive resistance at 1% in ASTM D6817 is equal to Elastic Limit Stress in the proposed AASHTO specification. Please find below ASTM D6817 Types recommended to meet the proposed AASHTO Geofoam Specification.

The following ASTM D6817 Types are recommended to meet the Proposed AASHTO Geofoam Specification.

Proposed AASHTO Geofoam Specification					
PRODUCT		EPS40	EPS50	EPS70	EPS100
Block Density, min.	lb/ft ³ (kg/m ³)	1.00 (16)	1.25 (20)	1.50 (24)	2.00 (32)
Elastic Limit Stress, min.	psi (kPa)	5.8 (40)	7.2 (50)	10.1 (70)	14.5 (100)
Initial Target, Young's Modulus	psi (MPa)	580 (4)	725 (5)	1015 (7)	1450 (10)
 recommended		19	22	29	39

ASTM D6817 Geofoam Specification					
PRODUCT					
		19	22	29	39
Density, min.	lb/ft ³ (kg/m ³)	1.15 (18.4)	1.35 (21.6)	1.80 (28.8)	2.40 (38.4)
Compressive Resistance @ 1% deformation, min.	psi (kPa)	5.8 (40)	7.3 (50)	10.9 (75)	15.0 (103)
Elastic Modulus, min.	psi (mPa)	580 (4)	730 (5)	1090 (7.5)	1500 (10.3)

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