

# Mansonville Plastics (BC) Ltd



## KOROLITE™ EPS GEOFOAM TECHNICAL INFORMATION

ASTM D6817

Type		EPS 12	EPS 15	EPS 19	EPS 22	EPS 24	EPS 29	EPS 39
Density, min	lb/ft <sup>3</sup>	0.70	0.90	1.15	1.35	1.50	1.80	2.40
	(kg/m <sup>3</sup> )	(11.2)	(14.4)	(18.4)	(21.6)	(24)	(28.8)	(38.4)
Compressive Resistance @ 1% deformation, min.	psi	2.2	3.6	5.8	7.3	9.4	10.9	15.0
	psf	320	520	840	1050	1358	1570	2160
	(kPa)	(15)	(25)	(40)	(50)	(66)	(75)	(103)
Elastic Modulus min	psi	220	360	580	730	848	1090	1500
	(kPa)	(1500)	(2500)	(4000)	(5000)	(5850)	(7500)	(10300)
Flexural Strength min.	psi	10.0	25.0	30.0	40.0	43.0	50.0	60.0
	(kPa)	(69)	(172)	(207)	(276)	(298)	(345)	(414)
Water Absorption by total immersion, max.,	volume %	4.0	4.0	3.0	3.0	3.0	2.0	2.0
Oxygen Index, min.	volume %	24.0	24.0	24.0	24.0	24.0	24.0	24.0
Bouyancy Force	lb/ft <sup>3</sup>	61.7	61.5	61.3	61.1	61	60.6	60.0
	(kg/m <sup>3</sup> )	(990)	(980)	(980)	(980)	(976.5)	(970)	(960)

### Additional Properties for Compressible Applications

Compressive Resistance @5% deformation, min	psi	5.1	8.0	13.1	16.7	20.0	24.7	35.0
	psf	730	1150	1890	2400	2924	3560	5040
	(kPa)	(35)	(55)	(90)	(115)	(140)	(170)	(241)
Compressive Resistance @10% deformation, min	psi	5.8	10.2	16.0	19.6	22.7	29.0	40.0
	psf	840	1470	2300	2820	3279	4180	5760
	(kPa)	(40)	(70)	(110)	(135)	(157)	(200)	(276)

See ASTM D6817 Standard for test methods and complete information

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## Korolite™ EPS Geofoam

### Uses

Korolite™ EPS Geofoam is rigid foam plastic used in geotechnical applications such as lightweight fill for use in applications where material is required to reduce stresses on underlying or adjoining soils/structures. These areas might include: slope stabilization, retaining walls or abutment backfill as well as for roadway and runway subgrade insulation and foundation insulation.

Korolite™ EPS Geofoam is 50 to 100 times lighter than soils and at least 20 to 30 times lighter than other lightweight fill alternatives. This makes Korolite™ EPS Geofoam an attractive fill material.

### Ready for installation

Mansonville produces the Korolite™ EPS Geofoam at its Surrey location. The material arrives at the installation site ready to place. Some final cutting may be required at the installation site. This is easily performed by experienced installation crews, using portable hot wire cutters.

### Design Loads

For most applications, long-term design loads should not exceed the linear elastic range of Korolite™ EPS Geofoam. Combined live and dead load stresses should not exceed the compressive resistance at 1% strain.

In general, earthwork applications (such as levees, dikes, berms, etc.,) uplift buoyancy force must be counteracted with overburden or restraint devices, such as geogrids, geomembranes, hold down devices etc.

### Size & Shape

Korolite EPS Geofoam is produced in block form.

Our standard size finished blocks are 48.5" x 48.5" x 194" ((1.23m x 1.23m x 4.92m)

The EPS blocks are fabricated to size as per approved shop drawings submitted for the project.

### Exposure to Water and Water Vapour

The mechanical properties of Korolite EPS Geofoam are unaffected by moisture. Exposure to water or water vapor does not cause swelling.

### Exposure to Sun

Korolite™ EPS Geofoam can be stored, unprotected, in the sun for up to six months. Exposure to the sunlight will cause yellowing and slight embrittlement of the surface due to the ultraviolet light. This will have little effect on the mechanical properties. If being stored longer, cover the Korolite EPS Geofoam with polyethylene film, tarps or similar material.

### **Storage**

Storage of Korolite™ EPS Geofoam stands up well to normal weather conditions that may be encountered during installation. If windy conditions arise, the blocks should be ballasted for both storage areas and as placed. The Korolite™ EPS Geofoam blocks should not be stored more than three blocks high.

### **Adhesives, Coatings, and Chemicals**

Korolite™ EPS Geofoam is susceptible to solvents such as esters, ketones, ethers, aromatic, gases etc.

### **Resistance to Mold and Mildew**

Korolite™ EPS Geofoam will not decompose and will not support mold or mildew growth nor do they provide nutrient value to plants or animals.

### **Quality Assurance**

Korolite™ EPS Geofoam meets or exceeds the requirements of ASTM D6817, "Standard Specification for Rigid, Cellular Polystyrene Geofoam".