

# SR.LWF™

## EXPANDED POLYSTYRENE INSULATION BLOCK

The SR.LWF™ insulation light weight fill blocks manufactured by Styro Rail Inc. are composed of type 1, 2 or 3 expanded polystyrene [EPS] providing compressive strength ranging from 80 kPa to 276 kPa [11.6 PSI to 40 PSI].



### CHARACTERISTICS

VARIOUS COMPRESSIVE VALUES AVAILABLE TO MEET THE DIFFERENT SPECIFICATIONS

PERMANENT R-VALUE – DOES NOT DIMINISH WITH TIME

EXCELLENT STRUCTURAL STABILITY

INERT MATERIAL - NOT-AFFECTED BY SOIL OR GROUNDWATER

LOW WATER ABSORPTION - FREEZE | THAW RESISTANT

HELPS REDUCE MAINTENANCE AND REPAIR COSTS OF ROAD INFRASTRUCTURES

PROVIDES VIBRATION DAMPING

ULTRA-LIGHT COMPARED TO OTHER BACKFILL MATERIALS

MEETS CAN/ULC-S701.1 STANDARD



**SR.LWF™** **EXPANDED POLYSTYRENE INSULATION BLOCK**

**AVAILABLE DIMENSIONS**

							100	200	300	350	400
610 mm x 2438 mm	[24" x 96"]	305 mm	[12"]	R44.4	R48.0	R50.4	R51.6	R51.6			
1219 mm x 2438 mm	[48" x 96"]	610 mm	[24"]	R88.8	R96.0	R100.8	R103.2	R103.2			

Other thickness available upon request.

**RECOMMENDED USE**

Install **SR.LWF™** insulation blocks when soil conditions are unstable or sloped, to limit settlement, shifting, sliding or compressing underlying ground or when a higher compressive strength for existing conditions is necessary. Install **SR.LWF™** insulation blocks when a thermal resistance is needed in addition to a higher compressive strength than the existing soil conditions.

Install **SR.LWF™** insulation blocks as insulating material to prevent uplifting of the structures that may be exposed to frost, to limit frost heave from causing cracking and premature deterioration on pavement or concrete exposed surfaces. Ideal as insulating material that also serves as backfill material for space underneath residential, commercial, industrial and agricultural concrete slabs. Install **SR.LWF™** blocks to prevent uneven frost heave from causing cracking and premature deterioration on pavement or concrete exposed surfaces. Ideal for civil engineering projects such as road infrastructures, bridge abutments, bridges and overpass access roads.

Install **SR.LWF™** insulation blocks as insulating material offering a high compressive strength for green roofs and roof-terraces.

**CERTIFICATION**

Warnock Hersey has certified the type 1, 2 and 3 expanded polystyrene contained in **SR.LWF™** insulation blocks in accordance with the CAN/ULC-S701.1 standard. The type 1, 2 and 3 expanded polystyrene produced by STYRORAIL™ are respectively listed in the CCMC Registry of Product Evaluation under CCMC 13276-L, CCMC 13271-L and CCMC 13277-L. MTQ or MTO certificate available upon request.

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**PHYSICAL PROPERTIES**

SR.LWF™	100	200	300	350	400
Type	1	2	3	3	3
Thermal Resistance Min. [ASTM C518] Thickness of 25 mm [1"]	<b>RSI 0,65</b> [R3.7]	<b>RSI 0,70</b> [R4.0]	<b>RSI 0,74</b> [R4.2]	<b>RSI 0,76</b> [R4.3]	<b>RSI 0,76</b> [R4.3]
MVTR Max. [ASTM E96]	<b>300 ng/Pa·s·m<sup>2</sup></b> [5.24 US Perms]	<b>200 ng/Pa·s·m<sup>2</sup></b> [3.5 US Perms]	<b>130 ng/Pa·s·m<sup>2</sup></b> [2.27 US Perms]	<b>130 ng/Pa·s·m<sup>2</sup></b> [2.27 US Perms]	<b>130 ng/Pa·s·m<sup>2</sup></b> [2.27 US Perms]
Compressive Strength Min. [ASTM D1621] 10% Deformation	<b>80 kPa</b> [11.6 PSI]	<b>120 kPa</b> [17.4 PSI]	<b>140 kPa</b> [20.3 PSI]	<b>210 kPa</b> [30.4 PSI]	<b>276 kPa</b> [40 PSI]
Flexural Strength Min. [ASTM C203]	<b>170 kPa</b> [25 PSI]	<b>240 kPa</b> [35 PSI]	<b>300 kPa</b> [44 PSI]	<b>345 kPa</b> [50 PSI]	<b>414 kPa</b> [60 PSI]
Water Absorption Max. [ASTM D2842] Volume	<b>4 %</b>	<b>3 %</b>	<b>2 %</b>	<b>1.8 %</b>	<b>1.5 %</b>
Dimensional Stability Max. [ASTM D2126] Linear Variation	<b>1.5 %</b>	<b>1.5 %</b>	<b>1.5 %</b>	<b>1.5 %</b>	<b>1.5 %</b>
Limiting Oxygen Index Min. [ASTM D2863]	<b>24 %</b>	<b>24 %</b>	<b>24 %</b>	<b>24 %</b>	<b>24 %</b>
Density Min. [ASTM C303]	<b>16 kg/m<sup>3</sup></b> [1.0 lbs/ft <sup>3</sup> ]	<b>20 kg/m<sup>3</sup></b> [1.2 lbs/ft <sup>3</sup> ]	<b>25 kg/m<sup>3</sup></b> [1.5 lbs/ft <sup>3</sup> ]	<b>29 kg/m<sup>3</sup></b> [1.8 lbs/ft <sup>3</sup> ]	<b>39 kg/m<sup>3</sup></b> [2.4 lbs/ft <sup>3</sup> ]
Flame Spread Rating [CAN/ULC S102.2]	<b>145</b>	<b>145</b>	<b>145</b>	<b>145</b>	<b>145</b>

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## ENVIRONMENTAL DATA

The expanded polystyrene used in the making of the SR.LWF™ blocks are composed of 98% air and 2% plastic material. They are manufactured without HCFC, HFC gases and without HBCD flame retardant.

The STYRORAIL™ products can contribute to LEED credits.

Please send us your LEED Material Declaration Form at [projetleed@styrorail.ca](mailto:projetleed@styrorail.ca).

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## STORAGE AND INSTALLATION

Store and install blocks in a location protected from ultraviolet rays, open flames or other sources of ignition. Blocks must be in good condition before installation.

In order to limit the color loss from extended periods of UV exposure, cover the blocks at the earliest opportunity with a tarpaulin, film or a material protecting from ultraviolet rays.

Provide lateral support for the stacked and uninstalled blocks in windy conditions. During installation, laterally protect the polystyrene mount with a granular covering material as specified in specifications.

Once installed, limit vehicle, heavy machinery or tools that could damage the lightweight fill blocks.

If the installation consists of one or more layered blocs, organize subsequent layers at 90 degrees from the previous layer or according to the installation layout provided. Stagger joints between blocks.

## LIMITATIONS

Expanded polystyrene is combustible. Even if expanded polystyrene contains a flame retardant, limit use of open flame or ignition sources near product.

Expanded polystyrene may be affected by some oil based solvents.

The continuous service temperature limit of expanded polystyrene is 75°C [167°F]. Constant exposure to temperature above 75°C [167°F] will shrink and warp the product.

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## EXEMPTION OF LIABILITY

The information herein is based on the present state of our best scientific and practical knowledge. The user is responsible for checking the suitability of products for their intended use. STYRORAIL™ technical data sheets are updated on a regular basis; it is the user's responsibility to obtain and to confirm the most recent version. Information contained in this data sheet may change without notice.