ORTEC MX –V2520J Lupolen flexible pad

The **ORTEC-MX** system for laying and affixing rails, enables rails to slide on the beam when the rail elongates due to temperature fluctuations, because the rail is not firmly attached but loosely held from the side. The bottom surface of the rail footing is not absolutely level as a result of the rail manufacturing process. The flexible **ORTEC MX** underlay enables the rail to slide smoothly on the beam and simultaneously reduces operating noise.

We chose **Lupolen V 2520** for manufacture of flexible underlay, out of the many types of material currently available on the market, because it best suits our requirements. This material has been used in railway transport, tram transport and in other similar fields for many years and with the best results. Even though high speeds stress this material, it bears dynamic loads very well.

Transportation equipment frequently stands for long periods – exerting great pressure – in one place. The ability of the underlay to return fully to its original shape, even during minor deformation, is very important for the service life of the underlay and the whole system.

Construction tests issued to date determine that when a wheel pressure of 1,000 kN was applied to an A120 crane rail for example, the rail was at the limits of its load capacity, but not the flexible underlay made of Lupolen **V2520J.** The **Lupolen V2520J** brand is a BASF, a.s. trademark for polyethylene and ethylene-vinyl acetate - copolymer.

The coefficient of elasticity under tension of rubber is 0.5, compared to Lupolen, which has a coefficient of 0.35. **Lupolen V252** has a hardness of over 90 on the Shore A scale. These values indicate that the possibility of vertical movement of the rails is minimised.

<u>The combination of the ORTEC-MX laying system with flexible underlay made of Lupolen V2520J truly guarantees a long service-life and the economy of rail laying.</u>

Manufacturing attributes and mechanical properties

Lupolen V2520J	Value	Unit	Test regulation	
Density	0.924-0.928	g / cm^3	ISO 1183	DIN 53479-A
Melting index	2.3 – 3.1	g / 10 min.	ISO 1133	DIN 53735
Melting temperature	108	^oC	DSC	-
Softening point	88	^oC	ISO 306	DIN 53460
Elongation at break	9	N / mm^2	ISO 527	DIN 53455
E – module	190	N / mm^2	ISO 527	DIN 53457
Shear modulus	150	N / mm^2	ISO 537	DIN 53445
Hardness according to Brinell	13	N / mm^2	ISO 2039-1	DIN 53456
Shore D hardness	47		ISO 868	DIN 53505

Are products are intended for special operations. Our recommendations are based on our experience. Guarantees are provide within the terms of our general terms of delivery.

TECHNICAL CHANGES RESERVED.