

# TECHNICAL DATA

## Matrack M20 AV EP 700

**ISOLGOMMA**  
\*\*\*\*\* Insulation technology

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### Description

Anti-vibration material supplied in panels, thickness 20 mm produced using fibres and granules of SBR rubber (Styrene Butadiene Rubber) and granules of EPDM rubber (Ethylene Propylene Diene Monomer) selected, compacted using a polyurethane glue in a hot process. A non woven, anti-punched synthetic membrane is applied on both sides of the panel; density 700 kg/m<sup>3</sup>.

### Application

Vibrations insulation of rail, tram and subway structures, such as elastomeric mat under slab in reinforced concrete and under ballast.

PHYSICAL CHARACTERISTICS	Unit	Value	Tolerance
Nominal thickness	mm	20	± 5%
Length	m	up to 3,0	± 1%
Width	m	up to 1,2	± 1%
Density (without backing)	kg/m <sup>3</sup>	700	± 5%
Backing superficial mass	g/m <sup>2</sup>	120	
Colour		black	

TECHNICAL CHARACTERISTICS	Norm			
Static Stiffnes ks	UNI 11059 - UNI 10570	N/mm <sup>3</sup>	0,04 ÷ 0,07	± 10%
Dynamic Stiffness kd	UNI 11059 - UNI 10570	N/mm <sup>3</sup>	0,076 ÷ 0,12	± 10%
Static Modulus of Elasticity Es	EN 826 - UNI 11059	N/mm <sup>2</sup>	1,05	± 10%
Dynamic Modulus of Elasticity Ed	EN 826 - UNI 11059	N/mm <sup>2</sup>	1,5 ÷ 1,8	± 10%

PHYSICAL AND CHEMICAL PROPERTIES				
Temperature range of use	UNICHIM 87/1970	°C	-20 ÷ 115	
Inflammability	DIN 4102		B2	
Water absorption by volume	DIN 52103/A		< 5%	
Water absorption in weight	DIN 52103/A		< 5%	
Coefficient of thermal conductivity	EN 12667	W/m x °C	0,113	
Electrical resistivity	UNI 5572/CEI15-23	Ω x cm	10 <sup>6</sup>	
Resistance to ozone	DIN 53509/1		no cracks	

### PACKING AND STORING - METHOD OF USE

The panels are placed on pallets and the packaging is made with the winding of a polyethylene film. The panels are placed together in dry or glued to points (it is recommended that you glue to points placed upright panels). The panels are to be reached through a adhesive tape of anti-tear woven type "stik".

### HEALTH & SAFETY

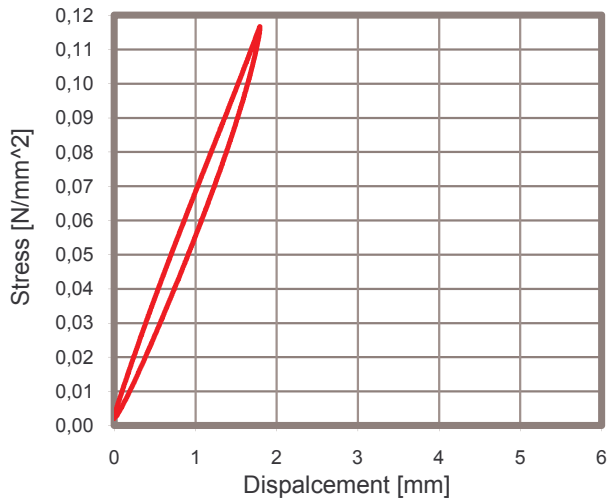
The product and the used rubber granules don't contain dangerous and toxic materials in accordance with the provisions of the "Implementation of Directive 2000/33/CE". It's not subject to the obligations settled in Directive 67/648/CEE.

The suggestions and technical information given above represent our knowledge regarding the properties and the product's uses. ISOLGOMMA reserve the right to modify or update this data without prior notice. This document is the property of ISOLGOMMA and all rights are therefore reserved.

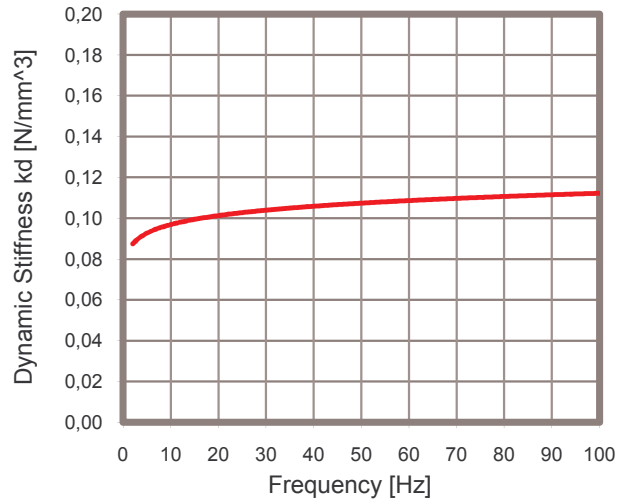
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### Compression - Static Stiffness $k_s$ - Dynamic Stiffness $k_d$

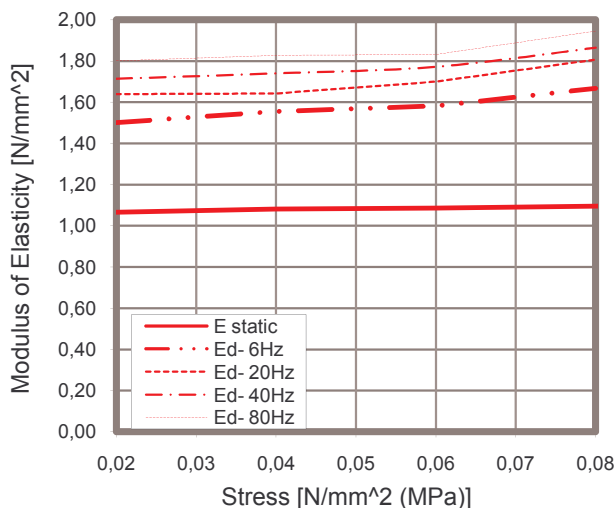


Norm UNI 10570
$k_s = 0,064 \text{ N/mm}^3$
$\sigma_{max} = 0,12 \text{ N/mm}^2$

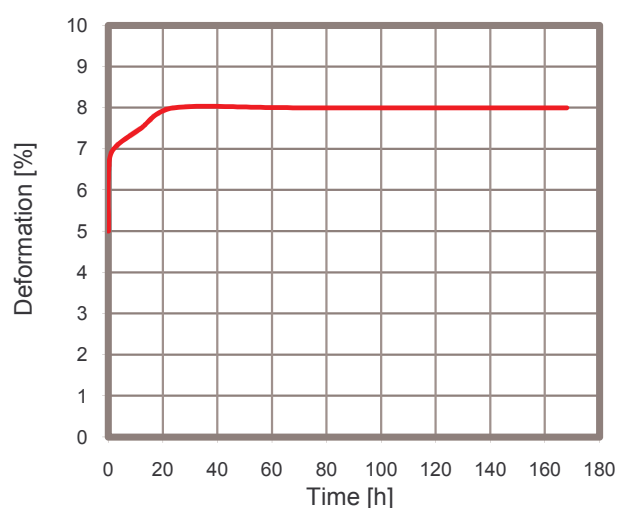


Norm UNI 10570
$k_d = 0,107 \text{ N/mm}^3$
$\sigma_s + \sigma_d = 0,12 \text{ N/mm}^2 - \sigma_d = \% \sigma_s$

### Static and Dynamic Modulus of Elasticity - Deformation over Time



Static and Dynamic Modulus of Elasticity
EN 826 - UNI 11059



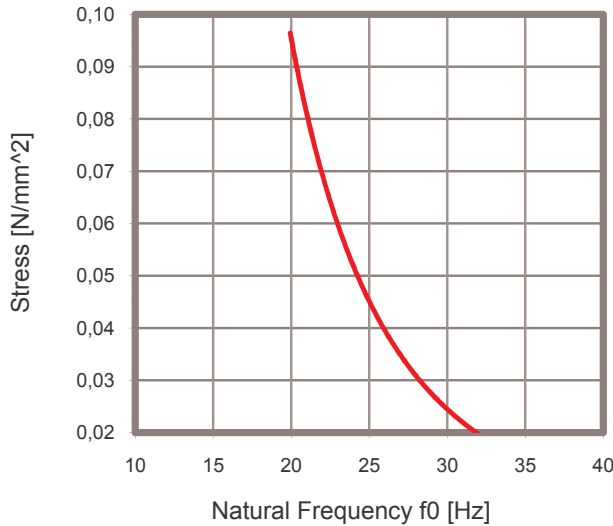
Permanent load test
UNI 11059

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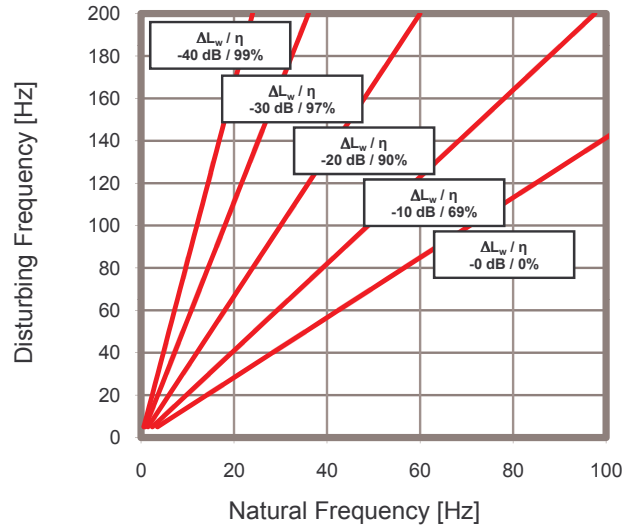
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### Natural Frequency - Degree of Insulation



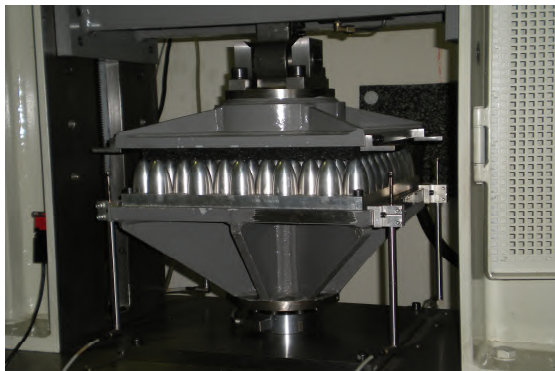
Norm UNI 11059
$f_0 = 19,94$ Hz
$\sigma_{max} = 0,1$ N/mm <sup>2</sup>



$\Delta L_w$	$\eta$
Decrease of transmission in dB	Degree of insulation on percentage

### Forced Aging Tests

<b>Fatigue test</b>
UNI 11059 / DB-TL 918071
$3 \times 10^6$ cycles / $50 \times 10^6$ cycles
% variation of the thickness $\Delta h \leq 15\%$
% variation of the Static Stiffness $\Delta k_s \leq 20\%$



<b>Atmospheric conditions strength test</b>
Air 70°C - Water 50°C - Ozone
UNI 11059
% variation of the Dynamic Stiffness :
$\Delta k_d$ air $\leq 10\%$ - $\Delta k_d$ water $\leq 15\%$ - $\Delta k_d$ ozone $\leq 20\%$

<b>Frost strength test with water</b>
UNI 11059
$3 \times 10^5$ cycles -25°C
% variation of the Dynamic Stiffness $\Delta k_d \leq 20\%$



<b>Worksite vehicle transibility test</b>
Adequacy of mats to be put along lines
UNI 11059
% variation of the thickness $\Delta h \leq 3\%$
% variation of the Dynamic Stiffness $\Delta k_d \leq 20\%$

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