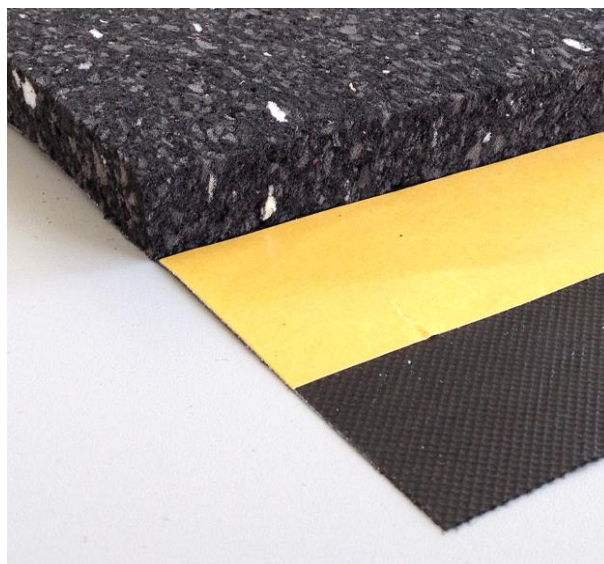


PRODUCT DESCRIPTION AND APPLICATION

ARCO SOLAIO is an impact noise system, the product is constituted by the union of a breathable membrane and a recycled polyether elastomer, the thicknesses available are 7.0, 11.0 and 15.0 mm. The product is 100% recyclable, it is rot-resistant, it is not water-soluble, it is not irritating to skin contact, eyes and the respiratory system. Basically it is a subflooring system applied in the new buildings, placed directly over the raw slab.



ACOUSTIC SYSTEM

GENERAL INFORMATION AND ADVICE

The impact noise insulation [L'_{nW}/L'_{nTW}] will be obtained using ARCO SOLAIO, a product by ARCOACUSTICA Company. The artefact has dynamic stiffness (s') 39.0, 20.5 and 19.5 MN/m³, compression stress (CV_{40}) 50.0 kPa, impact noise reduction (ΔLw) 30.1, 34.3 and 35.9 dB, thermal resistance (R) 0.17, 0.23 and 0.35 m²K/W. The system implementation will have to be carried out in compliance with the instructions specified in installation procedure by the manufacturer.

SUMMARY OF MAIN FEATURES

Evaluation criterion	Procedure	Symbol	Solaio ⁷	Solaio ¹¹	Solaio ¹⁵	U.M.
Nominal thickness	IM/AL 2014	s	1.0+6.0	1.0+10.0	1.0+14.0	mm
Roll length	IM/AL 2014	L	14.0	10.0	8.0	m
Roll height	IM/AL 2014	W	150+10	150+10	150+10	cm
Surface mass	IM/AL 2014	Ms	1.20	1.90	2.60	Kg/m ²
Roll weight	IM/AL 2014	W _{ei}	25.2	28.5	31.2	kg
Density	IM/AL 2014	Mv	/	/	/	Kg/m ³
Thermal conductivity	EN 12667 ISO 8302	λ_D	0.043	0.043	0.043	W/mK
Creep	EN 1606	/	0.20	0.40	0.50	mm
Compressibility	EN 12431	C	CP1	CP1	CP1	mm
Compression stress	ISO 3386/1	CV ₄₀	50.0	50.0	50.0	kPa
Water vapour transmission resistance	EN 12086	μ	65.0	65.0	65.0	/
Product thermal resistance	ISO 13786 ISO 6946	R	0.17	0.23	0.35	m ² K/W
Static load condition	ISO 12354/2	m'	250.0	250.0	250.0	Kg/m ²

Warning: ArcoAcustica suggests the handling of the rolls in the works carried out by two people.

ACOUSTIC PROPERTY

Evaluation criterion	Procedure	Symbol	Solaio ⁷	Solaio ¹¹	Solaio ¹⁵	U.M.
Apparent dynamic stiffness	ISO 29052/1	s^t	39.0	20.5	15.9	MN/m ³
Airflow resistance	ISO 29053	r	>100.0	>100.0	>100.0	kPa*s/m ²
Dynamic stiffness	ISO 29052/1	s'	39.0	20.5	15.9	MN/m ³
Quality factor	IM/AL 2014	Q	2.9	3.2	3.1	/
Damping factor	IM/AL 2014	ζ	34.4	31.2	32.3	%
Calculation footfall noise reduction	ISO 12354/2	ΔLw	30.1	34.3	35.9	dB
Young modulus in compression	IM/AL 2014	E _{secante}	0.03	0.03	0.03	N/mm ²
Young modulus in compression	IM/AL 2014	E _{tangente}	0.03	0.03	0.03	N/mm ²

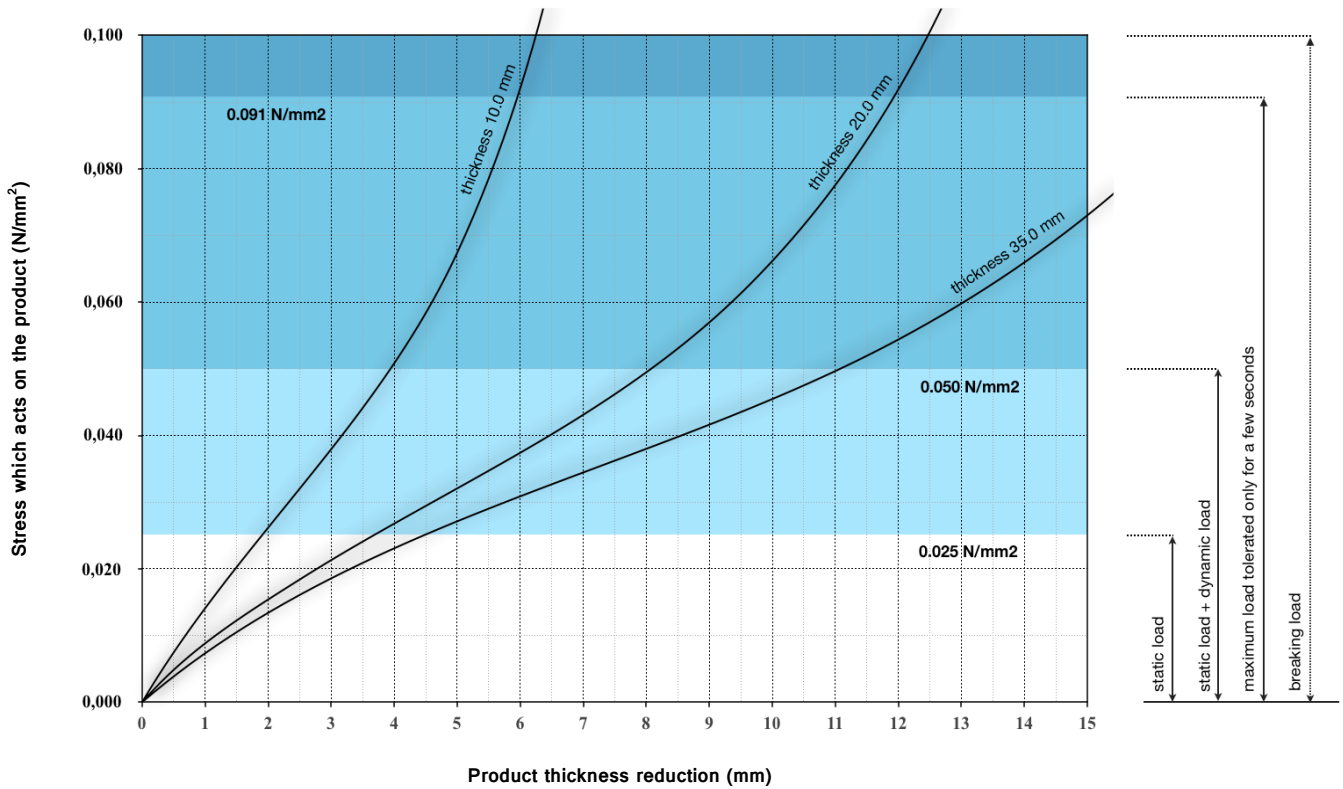
Warning: ArcoAcustica disclaims any civil or criminal liability arising from not compliant products using

PACKING

Evaluation criterion	Solaio ⁷	Solaio ¹¹	Solaio ¹⁵	U.M.
Pallet size	80x120	80x120	80x120	cm
Product weight on pallet	151.2	171.0	187.2	kg
Number of meters per pallet	126.0	90.0	72.0	m ²
Number of rolls per pallet	6	6	6	Rotoli

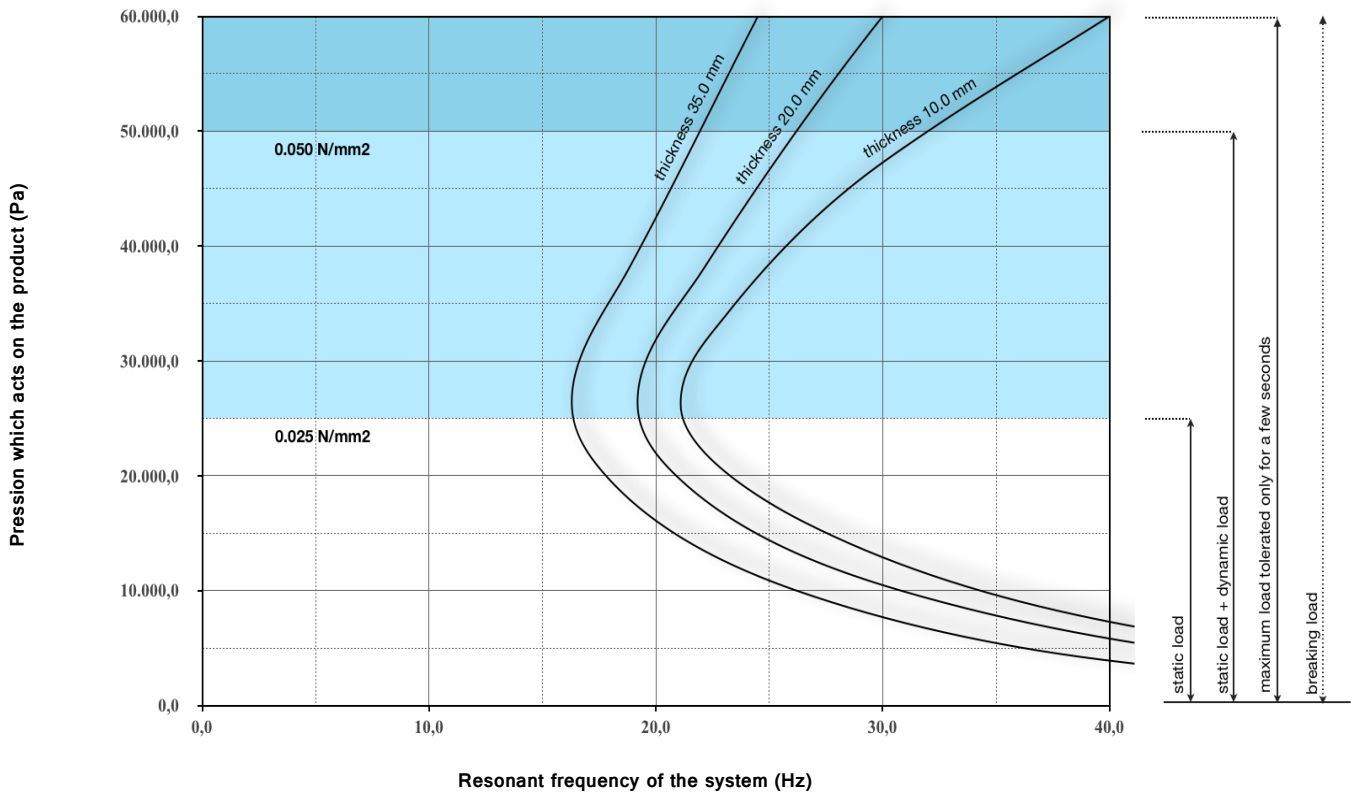
Warning: ArcoAcustica reserves to change the technical specifications of all products without prior notice.

CHARACTERISTIC STRESS FUNCTION OF DEFORMATION IN COMPRESSION



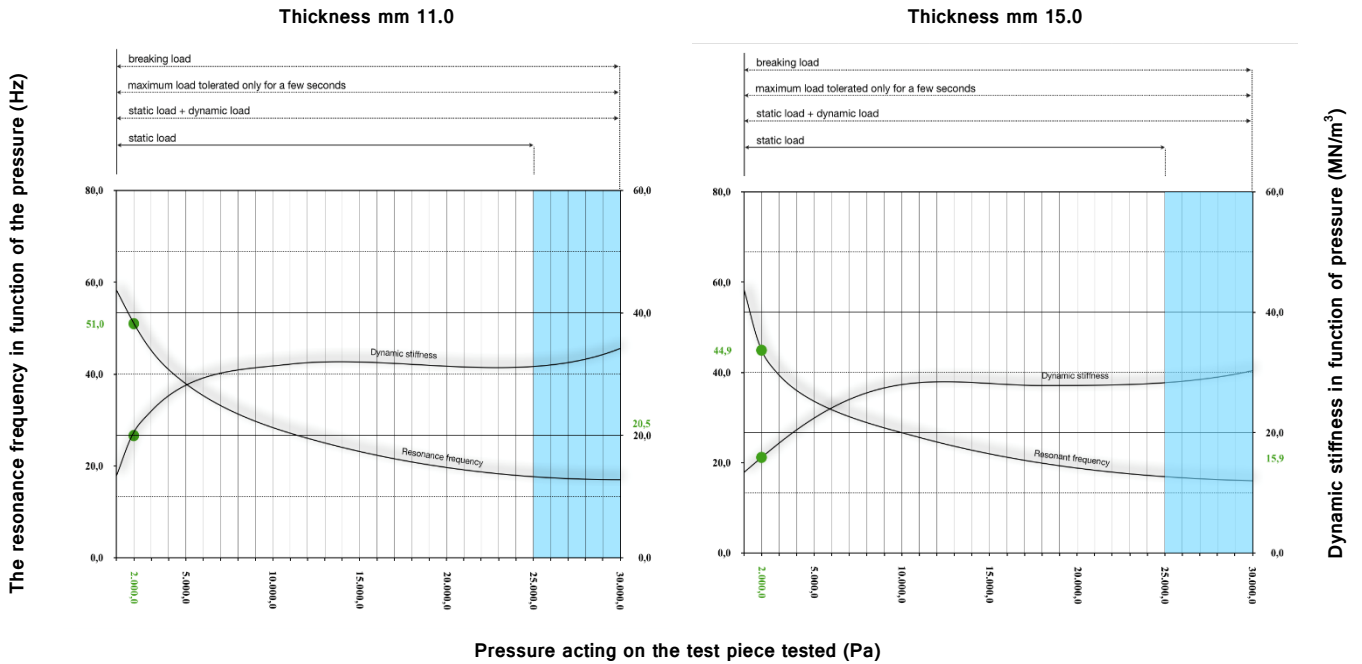
NOTE: Stress/Deformation analysis of the subfloor systems/dampers product, characterizes the own mechanical properties. The shape factor suggests the optimal load condition as the product can be subjected.

CHARACTERISTIC PRESSURE FUNCTION OF RESONANT FREQUENCY



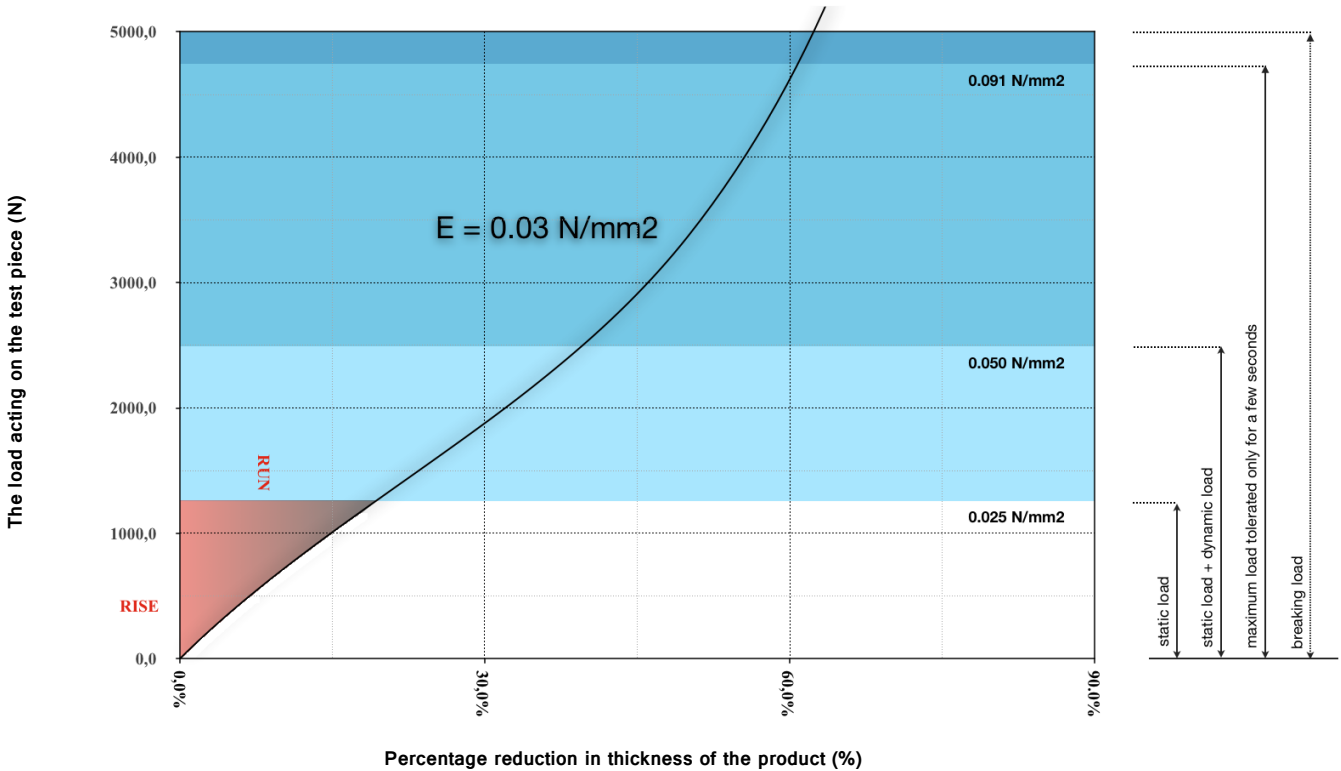
NOTE: System's resonance frequency and shape factor in relation to the different type of thickness.

CHARACTERISTIC RESONANT FREQUENCY AND DYNAMIC STIFFNESS FUNCTION OF PRESSURE



NOTE: Resonance frequency analysis and the dynamic stiffness depending on the variation of the pressure acting on the sample under test. To enhance our products, we have decided to extend the experimental analysis from the value of 1000 Pa up to the value of 30 kPa (100 kg/m² to 3.000 kg/m²). Respecting ISO 29052-1, each sample tested should be subject a static/dynamic pressure of 2000.0 Pa (about 200 kg/m²).

YOUNG MODULUS IN COMPRESSION (SECANT CRITERION)



NOTE: The elasticity modulus in compression is a characteristic feature of each material, it measures the force (per unit area) needed to stretch (or compress) a material sample in the mono-axial loading conditions. The Young's modulus "E" is defined as the ratio between the applied stress (RISE) and the deformation resulting (RUN), it corresponds to the slope "secant to the curve" passing through the origin and the ordinate point of RISE. This value is precautionary and well represents the elastic behavior of the polyurethane in the field of ordinary work "static load".