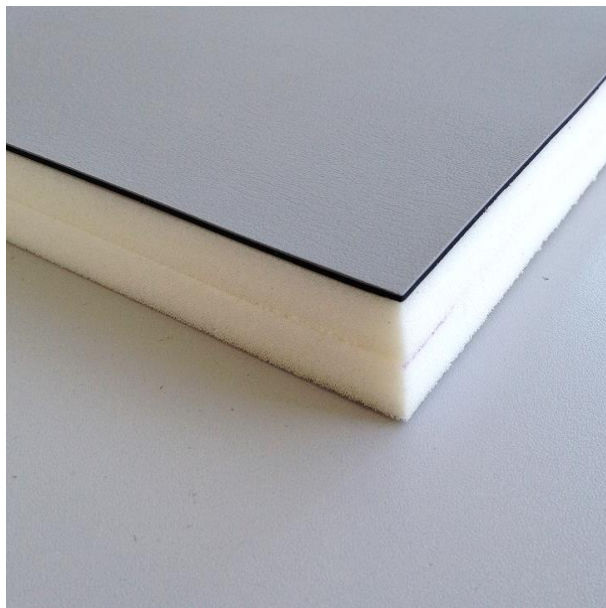


PRODUCT DESCRIPTION AND APPLICATION

ARCO ADVANCED is an electromagnetic induction impact noise system, the product is constituted by the union of a TPO membrane and a polyether elastomer. The thicknesses available are 20.0, 30.0 and 40.0 mm. The product is 100% recyclable, it's 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 and fixed with the principle of electromagnetic induction.

GENERAL INFORMATION AND ADVICE

The impact noise insulation [L'_{nw}/L'_{nTW}] will be obtained using **ARCO ADVANCED**, a product by **ARCOACUSTICA** Company. The artefact has dynamic stiffness (s') 26.7, 19.8 and 15.5 MN/m³, compression stress (CV_{30}) 27.0 kPa, impact noise reduction (ΔLw) 33.9, 35.8 and 37.3 dB and elastic modulus in compression (E_{secant}) 0.02 N/mm². The system implementation will have to be carried out in compliance with the instructions specified in installation procedure by the manufacturer.



ACOUSTIC SYSTEM

SUMMARY OF MAIN FEATURES

Evaluation criterion	Procedure	Symbol	Advanced ²⁰	Advanced ³⁰	Advanced ⁴⁰	U.M.
Nominal thickness	IM/AL 2014	s	1.0+20.0	1.0+30.0	1.0+40.0	mm
Roll length	IM/AL 2014	L	customized	customized	customized	/
Roll height	IM/AL 2014	W	customized	customized	customized	/
Surface mass	IM/AL 2014	Ms	3.20	4.30	5.40	Kg/m ²
Density	IM/AL 2014	Mv	/	/	/	Kg/m ³
Thermal conductivity	EN 12667 ISO 8302	λ_D	0.045	0.045	0.045	mm
Creep	EN 1606	/	~0.10	~0.15	~0.20	mm
Compressibility	EN 12431	C	CP1	CP1	CP1	mm
Compression stress	ISO 3386/1	CV_{30}	27.0	27.0	27.0	kPa
Water vapour transmission resistance	EN 12086	μ	90000	90000	90000	/
Product thermal resistance	ISO 13786 ISO 6946	R	0.44	0.62	0.84	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	Advanced ²⁰	Advanced ³⁰	Advanced ⁴⁰	U.M.
Apparent dynamic stiffness	ISO 29052/1	s^*t	21.7	16.3	12.9	MN/m ³
Airflow resistance	ISO 29053	r	>10.0	>10.0	>10.0	kPa*s/m ²
Dynamic stiffness	ISO 29052/1	s^*	26.7	19.8	15.5	MN/m ³
Quality factor	IM/AL 2014	Q	2.3	2.3	2.4	/
Damping factor	IM/AL 2014	ζ	43.4	43.4	41.6	%
Calculation impact noise reduction	ISO 12354/2	ΔLw	33.9	35.8	37.3	dB
Young modulus in compression	IM/AL 2014	E_{secant}	0.02	0.02	0.02	N/mm ²
Young modulus in compression	IM/AL 2014	$E_{tangent}$	0.17	0.17	0.17	N/mm ²

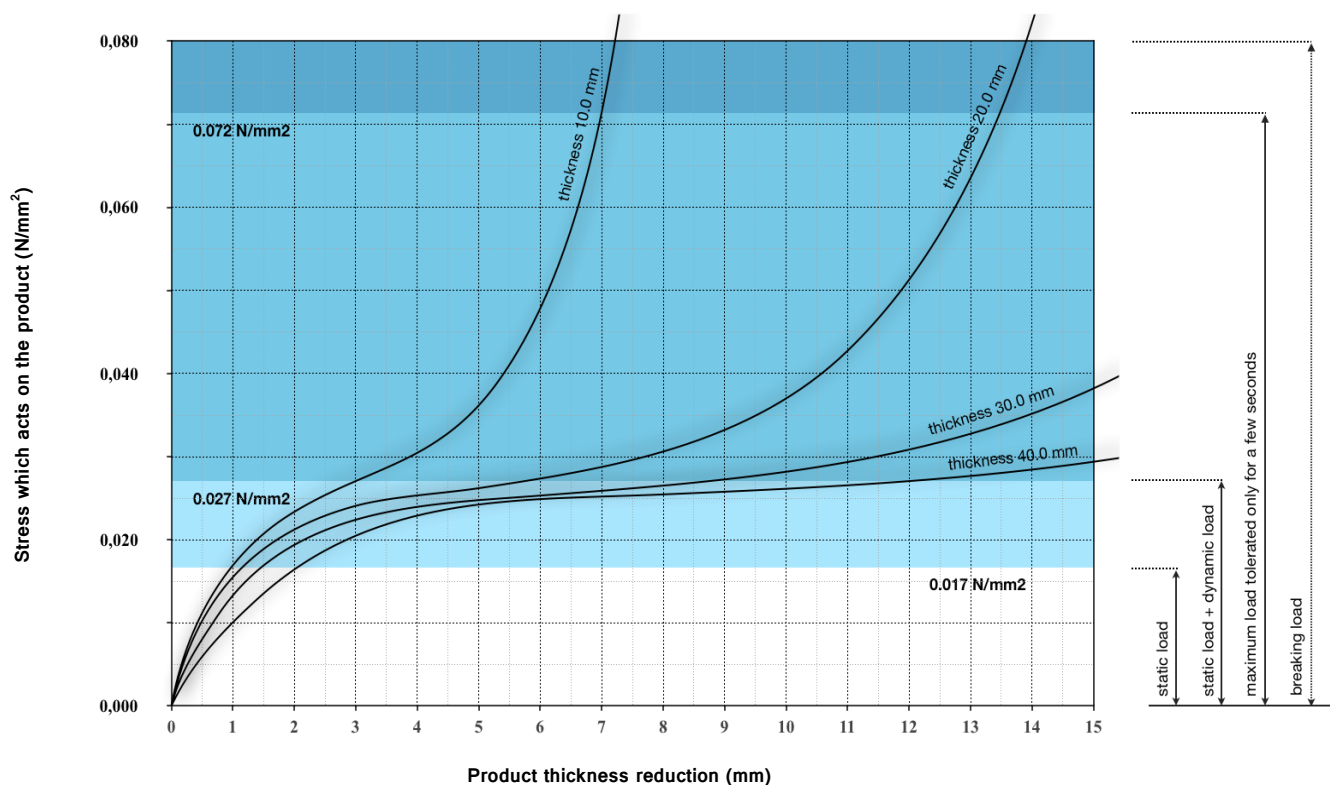
Warning: ArcoAcustica disclaims any civil or criminal liability arising from not compliant products using

PACKING

Evaluation criterion	Advanced ²⁰	Advanced ³⁰	Advanced ⁴⁰	U.M.
Pallet size	120x100	120x100	120x100	cm
Product weight on pallet	variable	variable	variable	kg
Number of meters per pallet	variable	variable	variable	m ²
Number of rolls per pallet	variable	variable	variable	Rolls

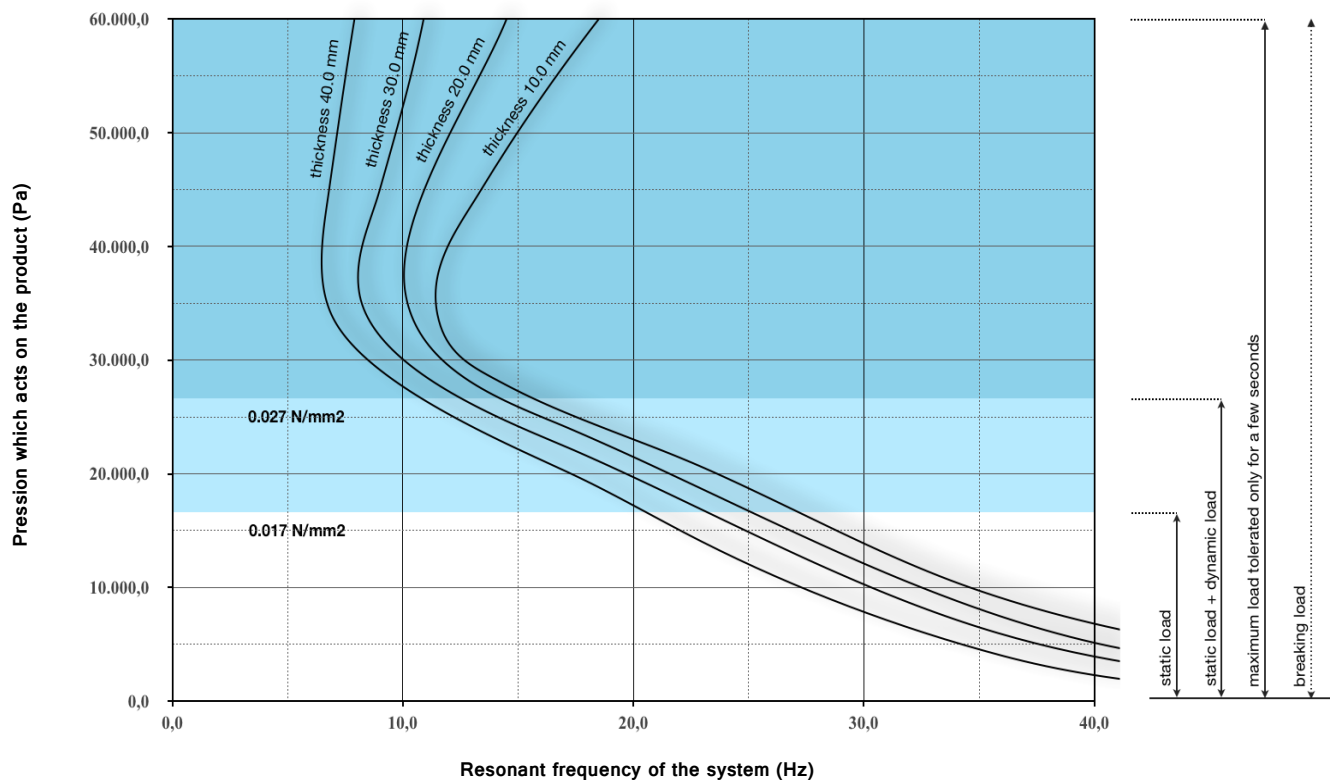
Warning: ArcoAcustica reserves to change the technical specifications of all products without prior notice.

CHARACTERISTIC STRESS FUNCTION OF DEFORMATION IN COMPRESSION



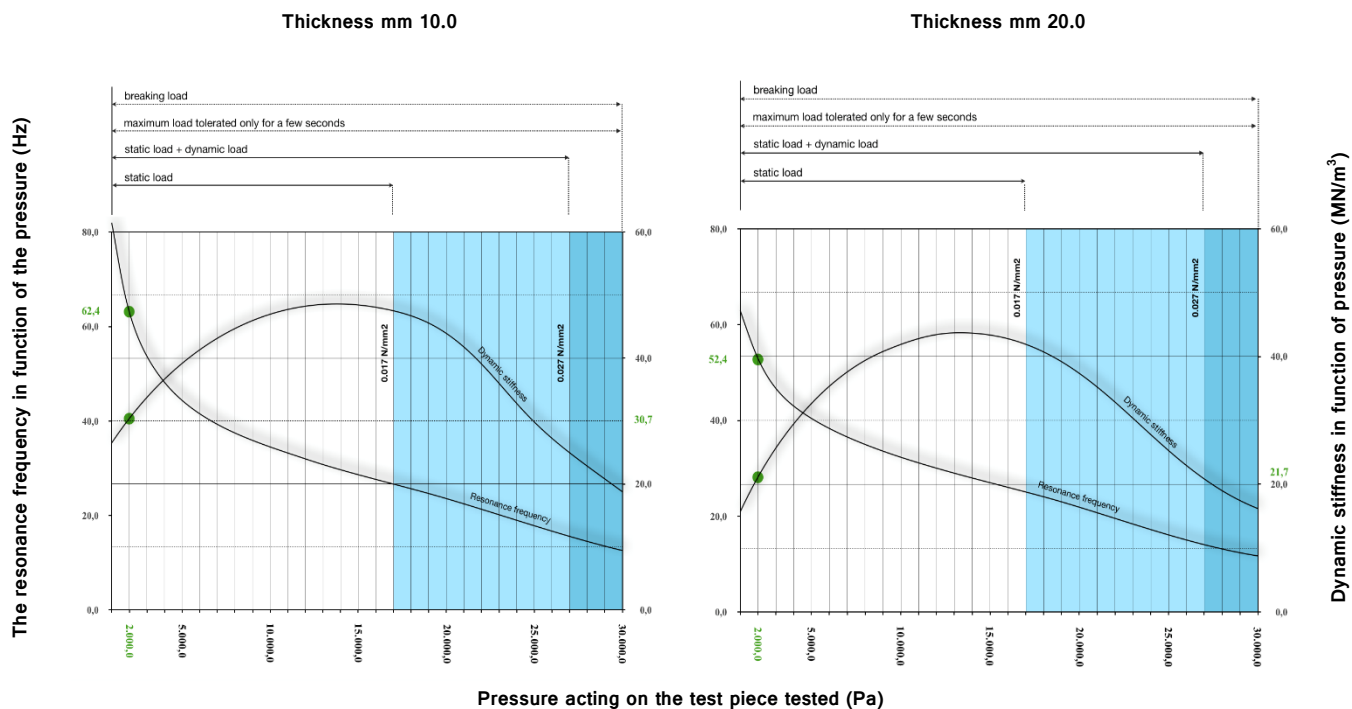
NOTE: Stress/Deformation analysis of the subfloor systems/dampers product, characterizes the own mechanical properties. The shape factor suggests the optimal load condition as the product can be subjected.

CHARACTERISTIC PRESSURE FUNCTION OF RESONANT FREQUENCY

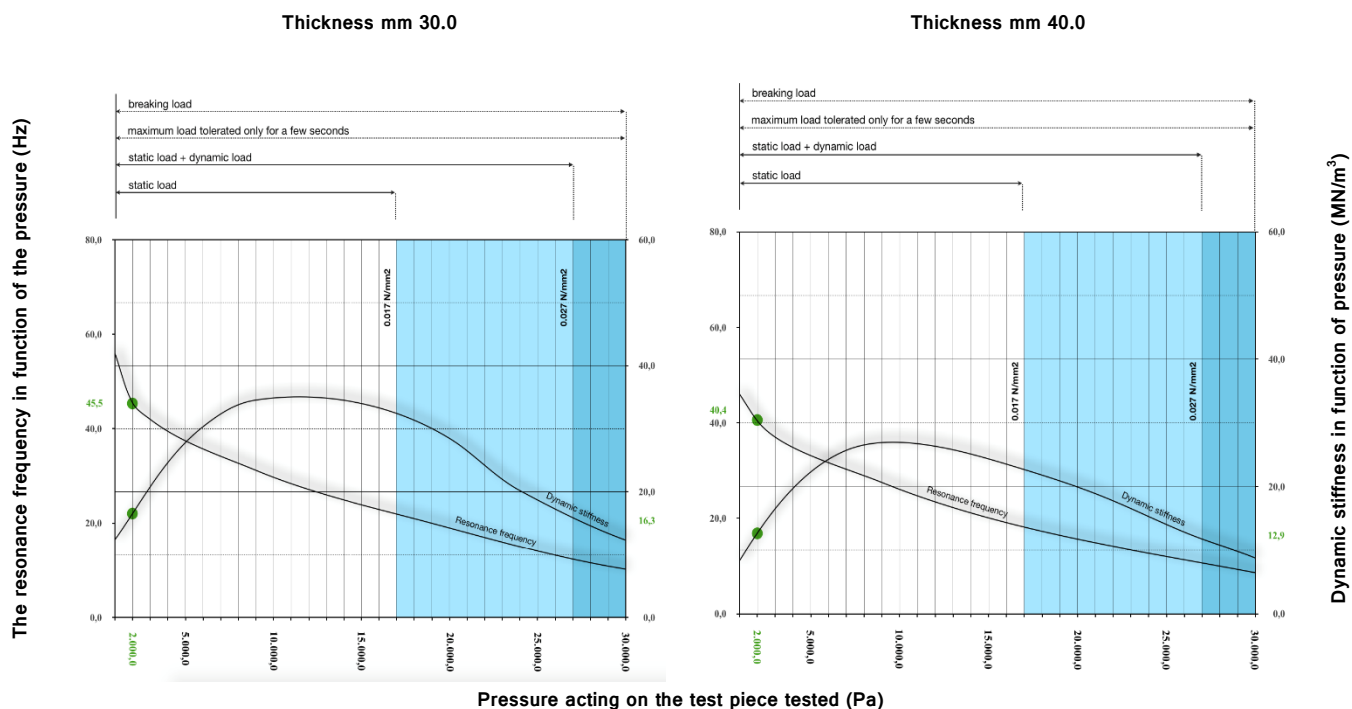


NOTE: System's resonance frequency and shape factor in relation to the different type of thickness.

CHARACTERISTIC RESONANT FREQUENCY AND DYNAMIC STIFFNESS FUNCTION OF PRESSURE

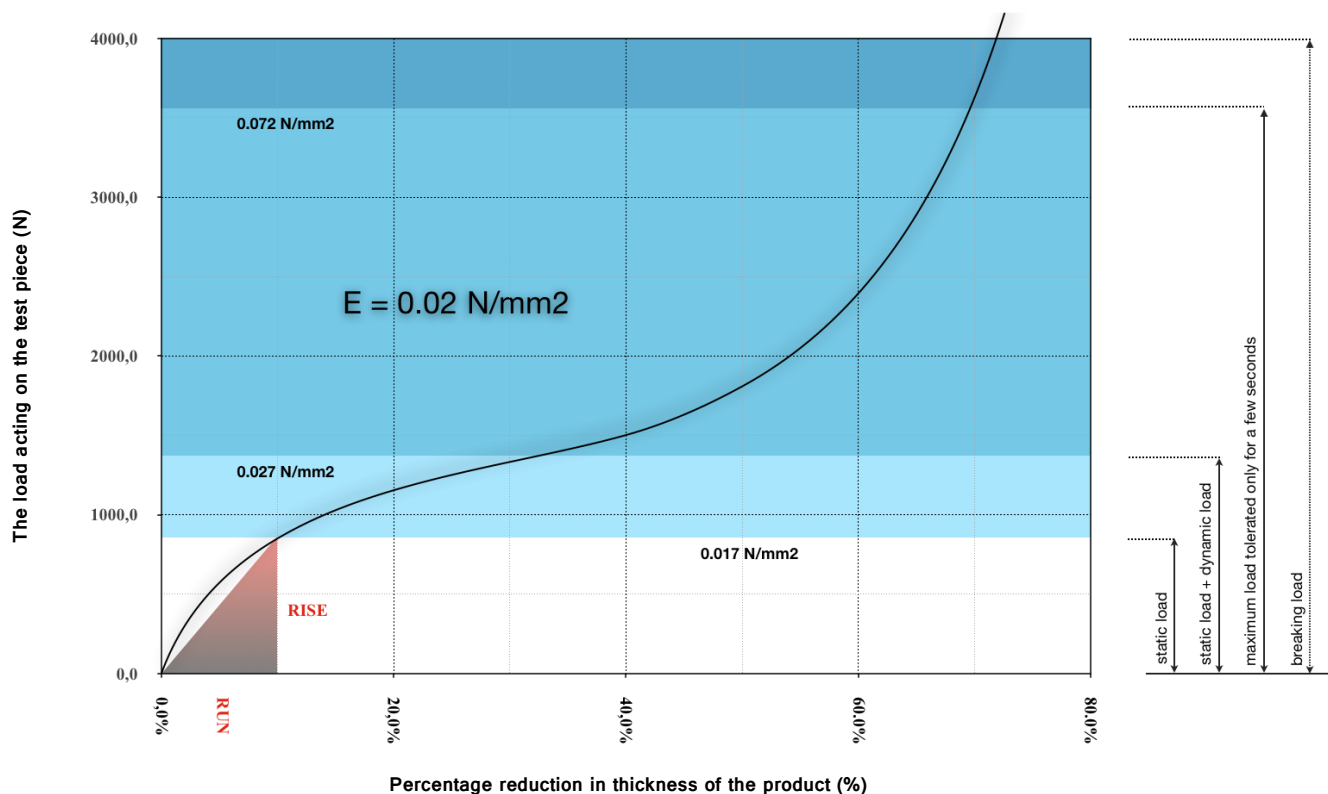


CHARACTERISTIC RESONANT FREQUENCY AND DYNAMIC STIFFNESS FUNCTION OF PRESSURE



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".