BUILDING COMMON GROUND

MAX FRANK

Technical data sheet

Stair landing bearing Egcosono SP

Impact sound insulation between stair landing and stairwell wall

Product

Description

Egcosono SP is a landing support designed for impact sound insulation in stairwells. The Egcosono SP landing support is available in two versions:

- Egcosono SP for in-situ concrete platforms
- Egcosono SP for prefabricated platforms

Both versions consist of a dimensionally stable, impact sound-insulating box made of expanded polypropylene (EPP) and a PU elastomer bearing for effective impact sound reduction.

In the cast-in-place concrete variant, an additional mounting body made of expanded polystyrene (EPS) is used, which ensures the designated cavity in the bearing area is maintained during concreting.

Area of application

Egcosono SP is used for the acoustically decoupled connection of landings to stairwell walls. The landing support reduces unwanted impact sound transmission in the stairwell by acoustically separating, supporting and decoupling the landing from the adjacent component.

The application is possible for both in-situ concrete and precast platforms.
The sound insulation requirements are based on country-specific regulations.

Properties/ Advantages

Egcosono pedestal supports for in-situ concrete and precast pedestals

Shared benefits

- Reduces impact sound transmission in stairwells
- Landing impact sound pressure level difference $\Delta L^{*}_{w,\,landing}$ = 25 to 29 dB
- Impact sound properties tested in an accredited testing laboratory in accordance with DIN 7396
- Fire resistance class R90
- Max. load capacity V_{Rd} = 87.4 [kN/element]
- Type testing based on Eurocode 2 (EC2)
- Type II environmental declaration

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Variant for in-situ concrete platforms

- Supplied with mounting body
- Easy to remove after concreting thanks to ergonomic handle hole

Variant for prefabricated platforms

- Delivered ready for installation
- No additional mounting body required

Testing

Test report

Type testing in accordance with Eurocode 2 (EC2) has been carried out. No general building approval required.

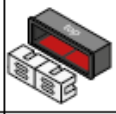
DIBt-approved elastomeric bearing.

Product details

Design

- Platform thickness from ≥ 160 mm
- Various Egcosono variants for different load cases

Type overview

		In-situ concrete landings				Precast element landings		
								
Type		SP O	SP V± O	SP H± O	SP L O	SP F	SP V± F	SP H± F
Direction of load		▼	▲▼	✥	▼		▲▼	✥
Max. Load-bearing capacity V_{Rd} up to	[kN/Element] ▲▼	87.4	87.4 / -23.8	87.4 / -23.8	174.8	87.4	87.4 / -23.8	87.4 / -23.8
Max. load capacity H_{Rd} up to	[kN/Element] ◀▶	-	-	± 23,8	-	-	-	± 23,8
Stair landing thick-ness	[mm]	≥ 160						

Accessories

Egcosono reinforcement cage (ESONBEP)

- The prefabricated reinforcement cage is set in concrete in the platform.
- Shear forces and the resulting offset moments are transferred to the walls.
- To achieve maximum load capacity, the standard basket consists of 4 plug-in brackets (Ø 12 mm) and 5 cross force brackets (Ø 8 mm).

Packaging

Egcosono SP is shipped in a cardboard box.

Storage

Store in a dry place. Protect from moisture and direct sunlight.

Physical properties
ARPRO 5122 black

Property	Test	Unit	Density (g/l)									
			20	30	40	50	60	80	100	120	140	160
Energy absorption in dynamic impact												
• 25% strain	Vertical impact drop tower Flat impactor 8km/h 23°C	J/l	40	70	100	115	160	240	330	460	530	610
• 50% strain			100	160	230	280	370	630	770	1,000	1,300	1,500
• 75% strain			200	290	410	500	670	1,200	1,500	2,000	2,800	3,200
Equivalent modulus at 3% compression	ISO 844	MPa	1.4	2.5	3.7	5.1	6.7	10.3	14.3	18.5	23.1	28.2
Compressive strength												
• 25% strain	ISO 844	kPa	80	150	210	275	340	500	700	900	1,150	1,400
• 50% strain			150	220	300	370	475	700	960	1,300	1,600	2,000
• 75% strain			370	460	600	800	1,000	1,600	2,300	3,200	4,500	6,000
Compression set	ISO 1856 C**	%	12.5	12	11.5	11.5	11.5	11	11	10.5	10.5	10.5
Resilience after dynamic impact at 75% strain	5min after impact	%	98	97	96	94	93	90	88	85	82	80
Burn rate	ISO 3795 12.5mm thick	mm/min	115	80	60	50	40	30	25	20	18	16

* For ARPRO Colours, White, Grey please refer to the datasheet "Typical physical properties of ARPRO additional grades" or to the datasheet.
** At 25% strain for 22 hours at 23°C and measured after stabilisation for 24 hours
*** Dynamic compression up to 75% is not recommended for ARPRO ≥ 180g/l

Environmental characteristics
ARPRO 5122 black

Topic	Reference	Version	Compliance
End of Life Vehicles – heavy metals limitation (Concentrations of lead, mercury, hexavalent chromium ≤ 0.1% and cadmium ≤ 0.01%)	2000/53/EC Article 4 (2) and Annex II	As amended (16/12/2022)	All ARPRO grades
Packaging & packaging waste - heavy metals limitation (Sum of the concentrations of lead, mercury, cadmium and hexavalent chromium ≤ 100ppm)	94/62/EC Article 11	As amended (30/05/2018)	All ARPRO grades
Global Automotive Declarable Substance List	GADSL List	As amended (01/02/2025)	ARPRO Black ARPRO Grey ARPRO White ARPRO On-site expansion ARPRO Porous ARPRO Recycled 4135 FR ARPRO ESDP 5135 LSS 5635 CG
Substances of Very High Concern candidate list	REACH 1907-2006 SVHC	As amended (21/01/2025)	All ARPRO grades
RoHS 3 - Restriction of the use of certain Hazardous Substances in electrical and electronic equipment (Concentrations of lead, mercury, hexavalent chromium, phthalates (PBB, PBDE, DEHP, BBP, DBP and DIBP) ≤ 0.1% and cadmium ≤ 0.01%)	2011/65/EU Article 4 (2) and Annex II	As amended (13/03/2024)	All ARPRO grades
Safety of toys. Migration of certain elements*	2009/48/EC Annex II, Part III (13)	As amended (03/06/2021)	All ARPRO grades except ARPRO Recycled and ARPRO ESDP
Plastic materials and articles intended to come into contact with food** (Suitability of monomers and additives used, as well as carbon black purity requirements and specific restrictions/specifications)	Commission Regulation (EU) No 10/2011	As amended (10/10/2023)	ARPRO Black: 5116, 5118, 5122, 5126, 5130, 5142, 5150, 5155, 5160, 5170, 5180, 5195, 5912, 5915, 5920 ARPRO 5253 ARPRO Grey ARPRO White ARPRO Porous ARPRO Colours
Food contact with pigments (Purity requirements for the use of colourants in materials coming into contact with food)	Council of Europe Resolution AP (89)1	13th September 1989	
Persistent Organic Pollutants (POP)	Regulation (EU) 2019/1021	As amended (22/07/2024)	All ARPRO grades (except 35 Ocean up to amendment from 03/2024)
Safe Drinking Water and Toxic Enforcement Act of 1986	California Proposition 65	As amended (11/08/2023)	ARPRO Black ARPRO Grey ARPRO White ARPRO On-site expansion ARPRO Porous ARPRO Recycled ARPRO Colours 4135 FR ARPRO ESDP 5135 LSS 5635 CG

This statement relates to ARPRO produced in Europe, Middle East and Africa. Specific standards are required of our suppliers and ourselves, but no post-production testing is undertaken.

*Migration tests are only valid when tested on the final article.

** Whilst the majority of grades are suitable for food contact, the specific grades are detailed herein. The Declaration of Compliance document is available upon request. Refer to us in case a conformity to specific national legislation would be required. Migration tests are only valid when tested on the final article.

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Material properties PU elastomer

Material properties	Standard	Setpoint
Breaking stress tensile test	DIN EN ISO 527-3/5/100 *	7 N/mm² Minimum value
Breaking stress tensile test	DIN EN ISO 527-3/5/100 *	500% Minimum value
Tear resistance	DIN 53315 *	20 N/mm Minimum value
Abrasion	DIN 53516	90 mm³ Load 10N, subcutaneous
Coefficient of friction (steel)	Getzner materials	0.7
Coefficient of friction (concrete)	Getzner materials	0.7
Compression set	EN ISO 1856	< 5% at static continuous load
Static shear modulus	DIN ISO 1827 *	0.80 N/mm² at static continuous load
Dynamic shear modulus	DIN ISO 1827 *	1.18 N/mm² at static continuous load
Mechanical loss factor	DIN 53513 *	0.10
Rebound elasticity	DIN 53512	70% Tolerance ± 10%
Operating temperature		-30°C to 70°C higher temperatures possible for short periods
Fire behaviour	DIN 4102 EN ISO 11925-2	B2 Class E
Specific resistance to current flow	DIN IEC 93	>10¹¹ Ωcm
Thermal conductivity	DIN 52612-1	0.11 W/mK
Area of application	**Compressive load (depending on shape factor)**	**Deformation**
Static continuous load	up to 1.50 N/mm² **	approx. 11% **
Service load range (static and variable loads)	up to 2.00 N/mm² **	approx. 16% **
Peak loads (infrequent and short-duration loads)	up to 8.00 N/mm² **	approx. 50% **

** In terms of form factor q = 3

* Measurement based on the respective standard

Environmental properties PU elastomer bearings

- RoHs and REACH compliant
  According to our current knowledge, the items you have purchased do not contain any SVHC substances in concentrations exceeding 0.1%.
- POP Regulation complied with (EU 2019/1021).
- Halogen-free
  Free from halogenated blowing agents, raw materials and flame retardants. Does not contain fluorine, chlorine, bromine or iodine.

Remark:

The usability of the products in the specific installation situation must be checked by the user. This data sheet is regularly updated. We therefore reserve the right to make technical changes without prior notice. The currently valid version can be found on our homepage at: www.maxfrank.de. Our General Terms and Conditions of Sale apply in addition.