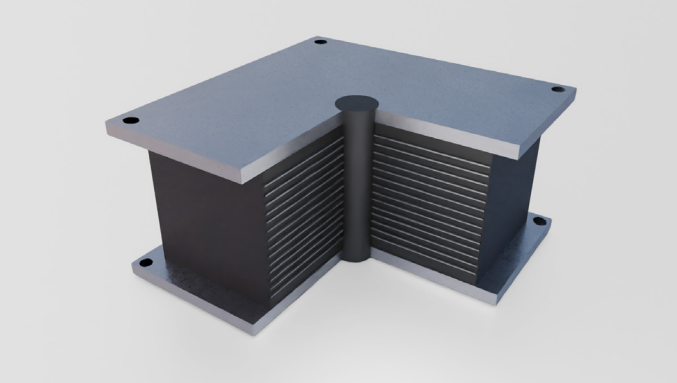


SEISMIC ELASTOMERIC ISOLATORS
RG/ELASTOSISM

The RG/ELASTOSISM elastomeric seismic isolators are manufactured in accordance with EU regulations.

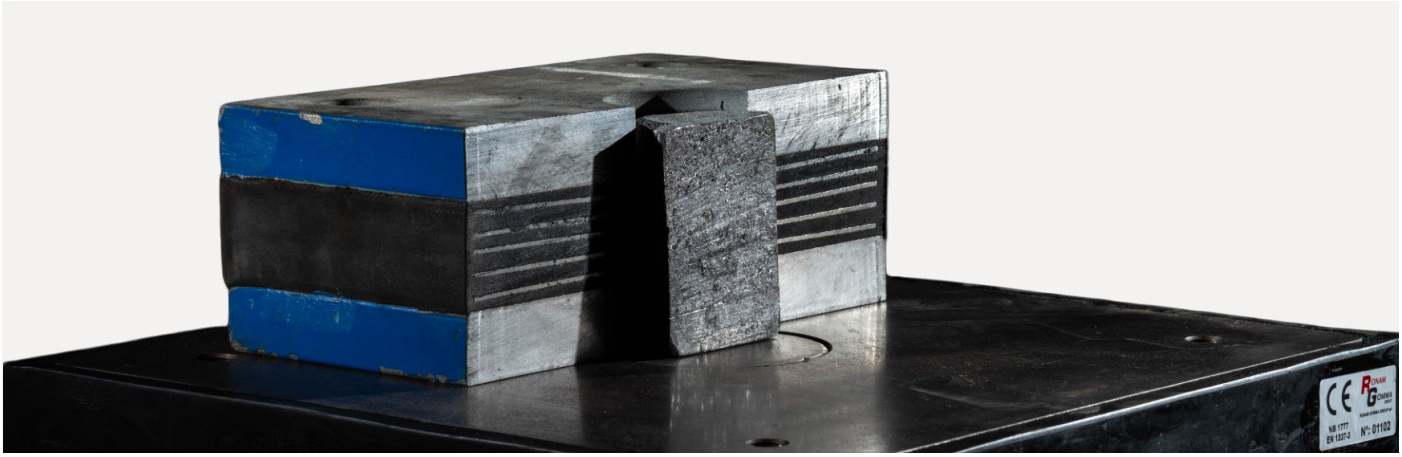
Made with alternating layers of natural rubber (NR) and S235JR steel plates, vulcanized together, they incorporate a central lead core that plastically deforms, absorbing seismic energy through thermal dissipation. This configuration ensures high damping, up to 30%, and an automatic re-centering capability of the device after the earthquake.

The steel plates are completely embedded in the elastomer, ensuring corrosion protection and structural robustness. The two external connecting plates facilitate installation, while the optional anchoring plates make maintenance and replacement of the device easier.

Under normal conditions, these devices function like standard elastomeric bearings, activating seismic protection only in the event of earthquakes, effectively limiting horizontal displacements and the transfer of forces to the superstructure.

Advantages:

- Significant energy dissipation during earthquakes
- Combined transfer of service and seismic loads
- Effective solution for the upgrade or restoration of existing structures
- Re-centering capability of the isolators after a seismic event
- Easily accessible technology

MECHANICAL AND PHYSICAL CHARACTERISTICS OF LOW-DAMPING ELASTOMERS	REQUIREMENTS			TEST METHODOLOGY
Shear modulus (MPa)	0,3≤G≤0,7	0,7≤G≤1,1	1,1≤G≤1,5	63 ± 3
Tensile strength (MPa), min. Specimens from plate Specimens from bearing		16 14		ISO 37 Type2
Elongation at break (%), min. Specimens from plate Specimens from bearing	450 400	425 375	350 300	ISO 37 Type2
Tear resistance (kN/m), min.	5	8	10	ISO 34 Method A
Residual compression set at 70°C, 24h, max.	30	30	30	ISO 815 Type A 25% compression
Ozone resistance 30% elongation – 96h at 40°C ± 2°C	Absence of cracks	Absence of cracks	Absence of cracks	ISO 1431-1
Accelerated ageing in air oven Maximum variation from initial value: Hardness (IRHD) Tensile strength (%) Elongation at break (%)	 -5,+8 ±15 ±25	 -5,+8 ±15 ±25	 -5,+8 ±15 ±25	ISO 188 Method A ISO 48 ISO 37 Type2

HOT-ROLLED STEEL S235JR UNI EN 10025 (FE360)	
POISSON COEFFICIENT	0,3
ELONGATION MODULUS	206000 N/mm²
MASS DENSITY	7850 Kg/m³
UNIT BREAKING LOAD	360 N/mm²
% ELONGATION AT BREAK	26%
UNIT EXHAUSTEMENT LOAD	235 N/mm²
UNIT ACCEPTABLE LOAD	160 N/mm²