

ES-SERIES

Energy Absorbing TPE



Product Description

EndoChem ES-Series is a specially formulated, injection moldable, thermoplastic elastomer with excellent damping properties.

Features

- High Damping Material
- Injection Moldable
- Halogen Free
- ROHS

Applications

EndoChem ES-Series TPE is typically used for vibration and noise mitigation inside systems and shock protection for sensitive components.

Typical Properties

Product Line	ES045-LF	ES060-LF	ES040	ES055
Hardness ASTM D2240 Type A Durometer 15 Sec. Impact @ 23°C (73°F)	45	60	40	55
Density (g/cm ³) ASTM D792	1.02	1.02	1.05	1.05
Tensile Strength (MPa) ASTM D412	9.5	13.6	3.5	10.7
Tear Strength (kN/m) ASTM D624 Die C	15.8	20.1	17.5	20.1
Elongation (%) ASTM D412 Die C	≥ 600	≥ 450	≥ 800	≥ 600
Damping Performance @ 10Hz	1.18 @ 0°C	1.45 @ 5°C	1.24 @ 0°C	1.20 @ 5°C
Operating Temperature (°C)	0 to 70°C	0 to 70°C	0 to 70°C	0 to 70°C
UL94 Flammability Rating	HB	HB	V0	V0
RoHS Compliance	Yes	Yes	Yes	Yes
REACH Compliance	Yes	Yes	Yes	Yes
Halogen Free	Yes	Yes	Yes	Yes

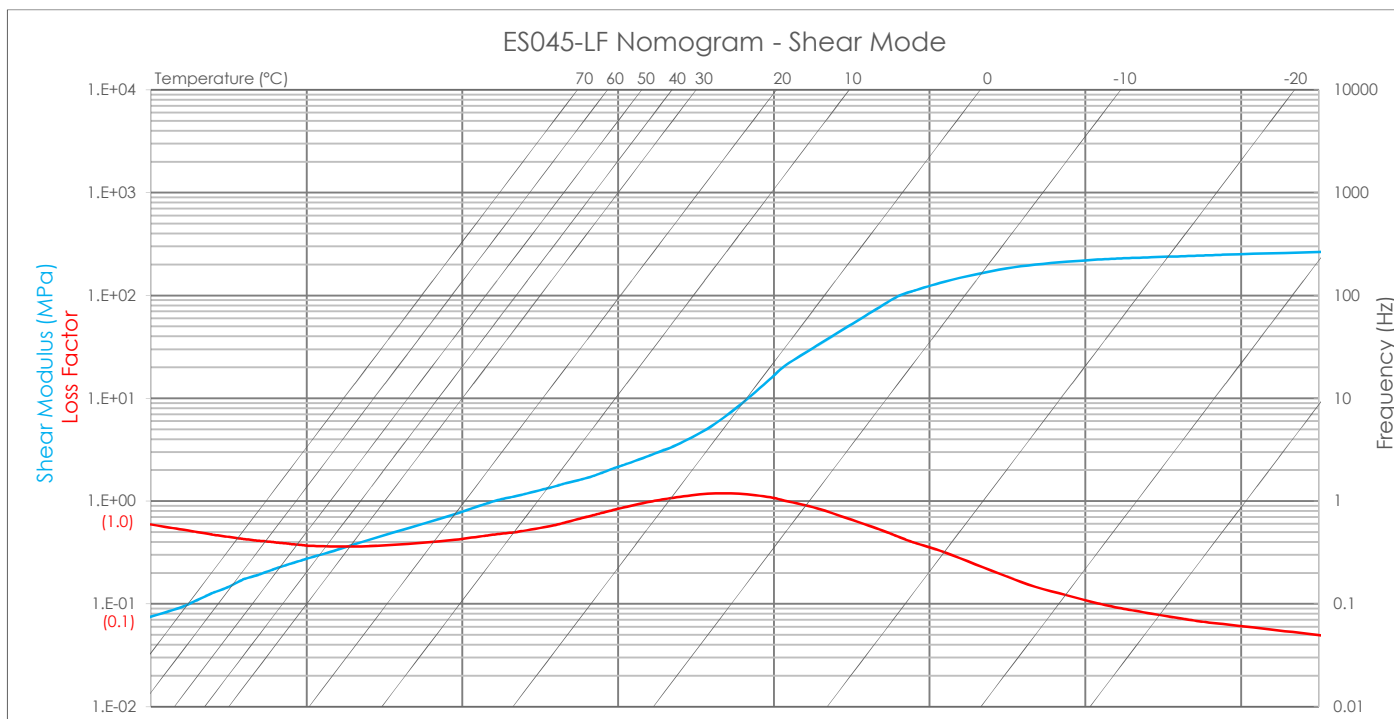
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Typical Properties Continued

Compression Load Deflection - ASTM D575				
Product Line	ES045-LF	ES060-LF	ES040	ES055
Force at 10% compression (kPa)	0.48	0.71	0.38	0.88
Force at 20% compression (kPa)	0.95	1.46	0.75	1.72
Force at 30% compression (kPa)	1.46	2.32	1.18	2.63
Force at 40% compression (kPa)	2.08	3.50	1.83	3.98
Force at 50% compression (kPa)	3.00	5.26	3.03	6.36



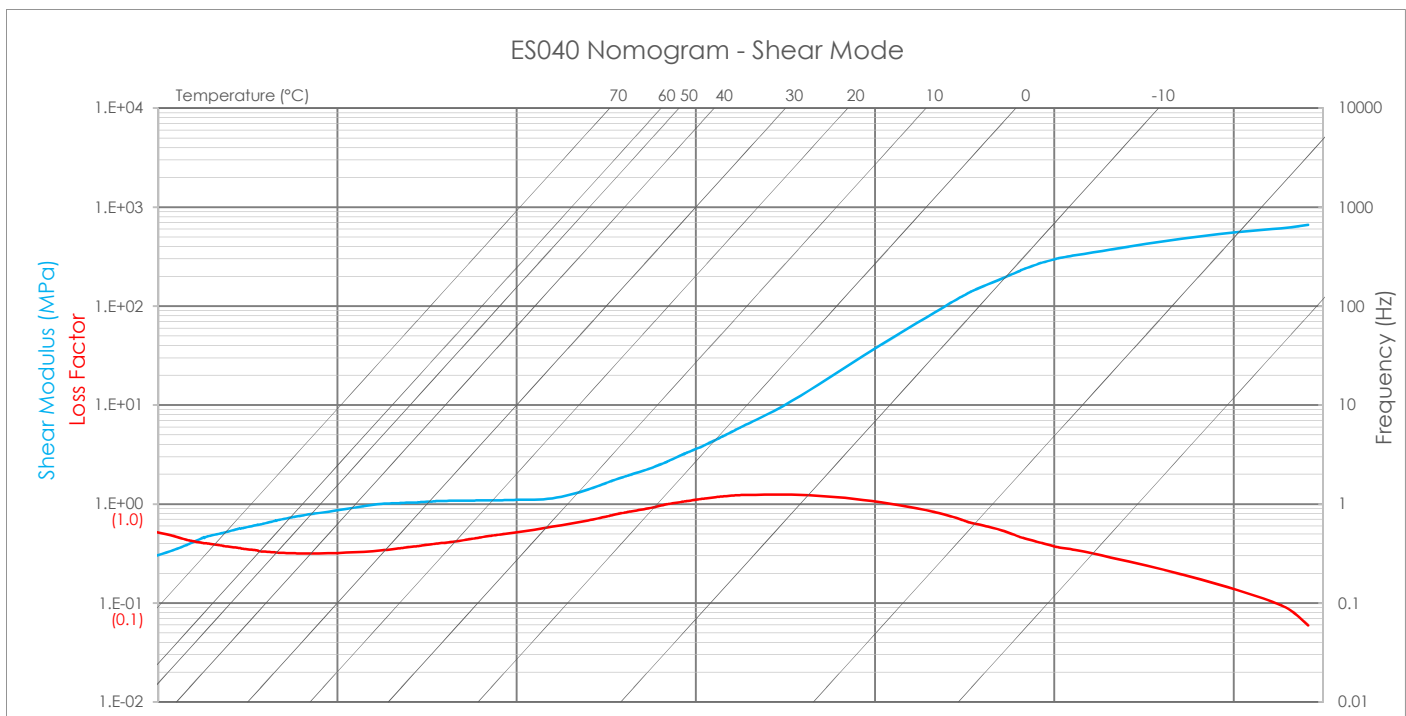
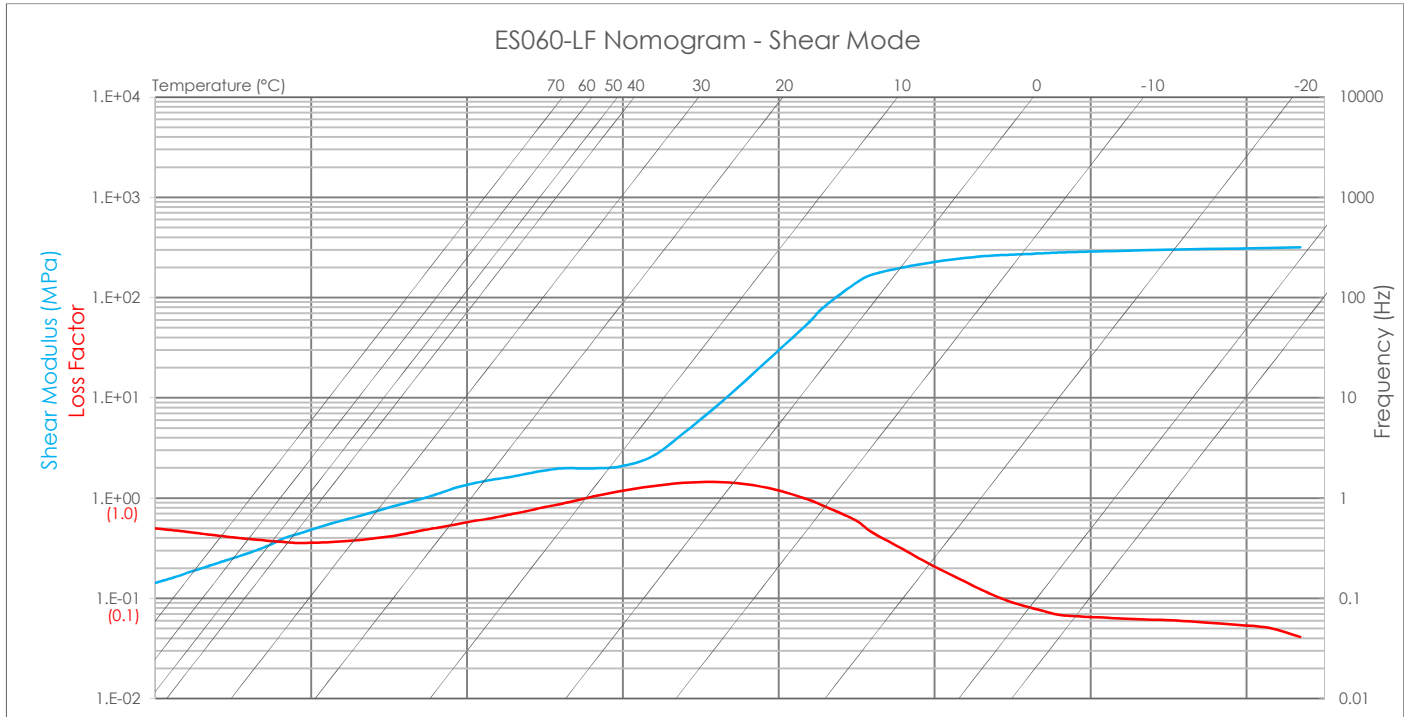
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Typical Properties Continued

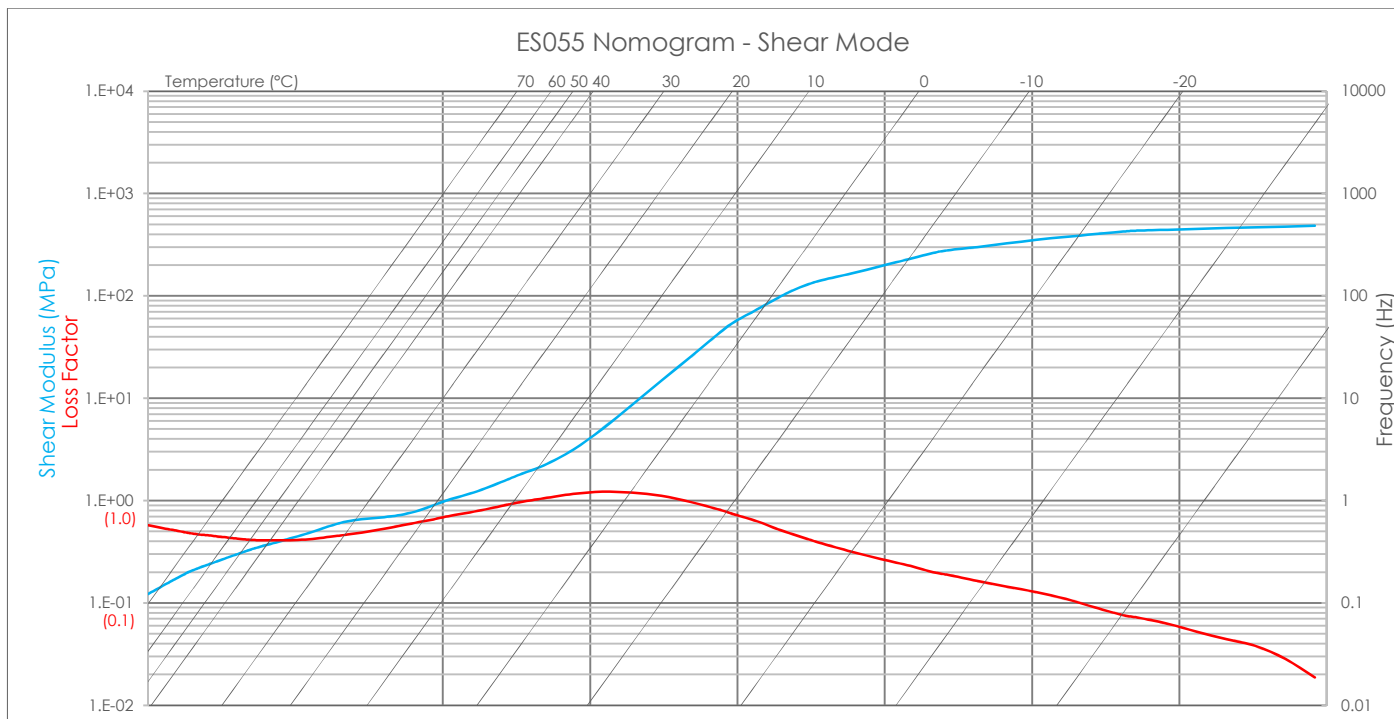


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Typical Properties Continued



Storage and Shelf Life

Recommended storage in a temperature controlled room at 18-25°C with a 50% nominal relative humidity. Under these conditions, shelf life is good for up to 12 months from the date of manufacture.

Warranty and Disclaimer: The user is solely responsible for evaluating the product and determining whether it is acceptable for use and suitable for the user's method of application. EndoChem warrants that each product meets the applicable EndoChem product specification at the time of shipment. If the EndoChem product does not conform to this warranty, then the sole and exclusive remedy is, at EndoChem's option, replacement of the product or refund of the purchase price.

Limitation of Liability: Except where prohibited by law, EndoChem will not be liable for any loss or damage arising from the EndoChem product, whether direct, indirect, special, incidental or consequential, regardless of the legal theory asserted, including warranty, contract, negligence or strict liability.

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