
HIGH-PERFORMANCE PLASTICS

PRODUCT OVERVIEW

Epoxy Moulding Compounds

HIGH PERFORMANCE PLASTICS

Epoxy Moulding Compounds (EMC) are high-performance thermosetting materials that are able to be processed using transfer or injection moulding. Duresco Epoxy Moulding Compounds usually exhibit the following characteristics:

- High electrical insulation properties
- High dimensional stability and temperature resistance
- Low viscosity; mild and well sealed encapsulation of inserts
- Low water absorption combined with outstanding chemical resistance
- Reliable, long-term use under difficult chemical conditions
- Excellent price/performance ratio

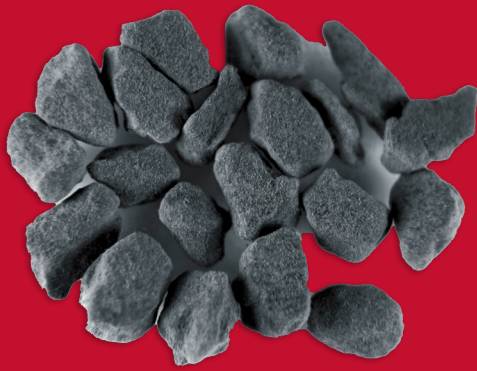
STORAGE

Compounds remain processable for several months (see shelf life) if stored under cool and dry conditions.

INDUSTRIAL SAFETY

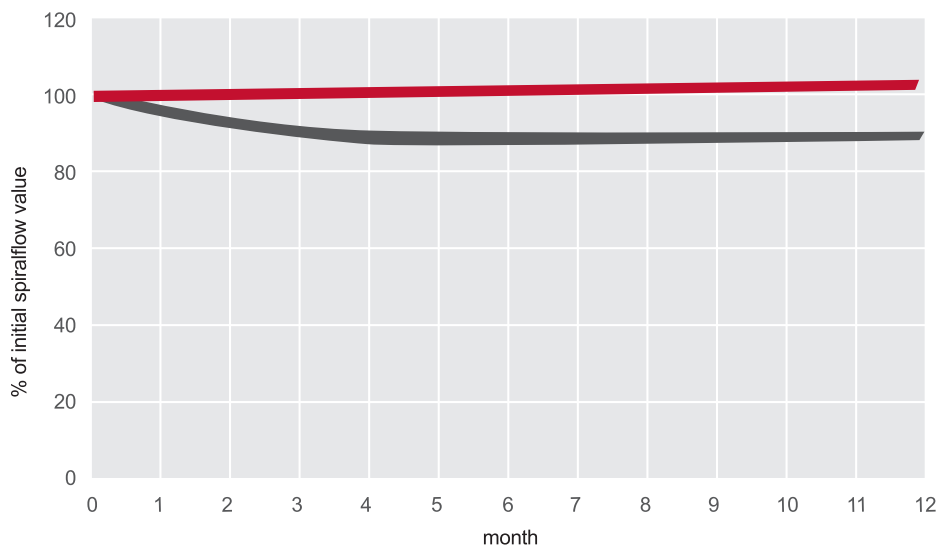
SQS - Certificate ISO 9001:2015 | ISO 14001:2015 | ISO 45001:2018 | IATF 16949:2016

The advice regarding industrial safety on the MSDS should be followed when using our moulding compounds.



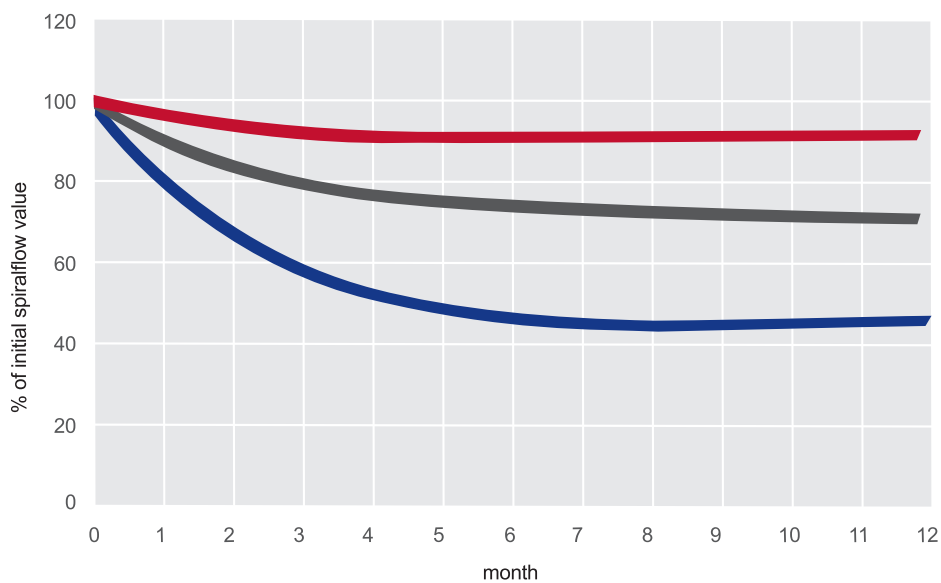
Shelf life

Shelf life at a temperature of 8 °C



■ NU 505 / NU 510-1 / NU 3723 / NU 6110 / NU 6200 / NU 6210 / NU 6640
■ NU 461 / NU 514 / NU 4414

Shelf life at a temperature of 18 °C



■ NU 510-1 / NU 6110 / NU 6200 / NU 6210 / NU 6640
■ NU 505 / NU 3723 / NU 4414
■ NU 461 / NU 514

Product properties

	PROPERTY	STANDARD	UNIT	NU 461
GENERAL	Density	DIN 53479	g/cm ³	2.0
	Water absorption (100°C / 30 Min)	ISO 62	%	0.1
	Mould shrinkage*		%	0.4-0.6
	Post shrinkage (170°C / 2h)		%	0.01
MECHANICAL	Tensile strength	ISO 527	MPa	90
	Flexural strength	ISO 178	MPa	160
	Surface strain (flexural test)	ISO 178	%	1.5
	E-modulus (flexural test)	ISO 178	GPa	17
	Impact strength	ISO 179-1	kJ/m ²	18
	Notched impact strength	ISO 179-1	kJ/m ²	6
THERMAL	Glass transition temperature	ISO 6721	°C	140
	Temp.-time limit (flexural strength) 2'000h	IEC 60216	°C	230
	Temp.-time limit (flexural strength) 20'000h		°C	190
	Coefficient of linear thermal expansion (30-105°C)	ISO 11359-2	ppm/K	16
	Thermal conductivity	ISO 22007-4	W/mK	0.70
	Flammability	UL 94	Class	HB
ELECTRICAL	Volume resistivity (25°C)	IEC 60093	Ωcm	10 ¹⁵
	Surface resistivity (25°C)	IEC 60093	Ω	10 ¹⁷
	Dielectric loss factor tan δ (50 Hz)	IEC 60250	%	1.2
	Dielectric constant ε _r (50 Hz)	IEC 60250	-	5.5
	Comparative Tracking Index	IEC 60112	CTI	275
	Arc Resistance	ASTM D-495	Class	3
UL LISTED PRODUCTS FILE NR-E66640				•
Mineral fillers				•
Short glass fibres				•

* Mould temperature
 190° C for Injection
 170° C for Compression, transfer



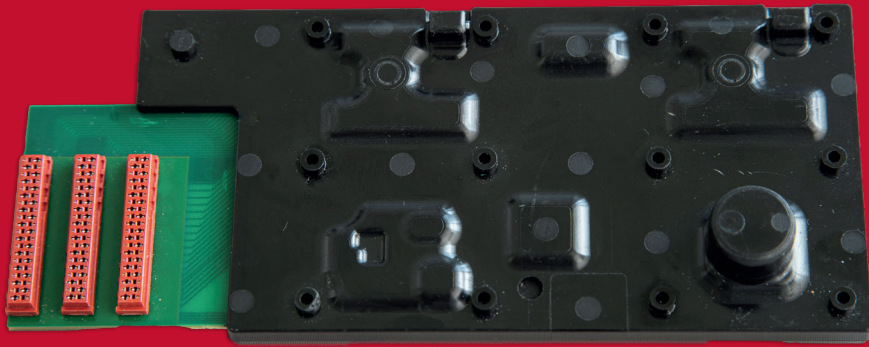
NU 505	NU 510-1	NU 514	NU 3723	NU 4414	NU 6110	NU 6200	NU 6210	NU 6640
2.0	2.0	1.9	2.0	2.0	2.0	1.95	1.95	2.3
0.05	0.05	0.06	0.05	0.04	0.03	0.05	0.06	0.03
0.6-0.8	0.2-0.7	0.4-0.6	0.3-0.5	0.3-0.5	0.2-0.7	0.2-0.7	0.2-0.7	0.3-0.5
0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01
45	90	80	80	80	80	70	100	90
100	160	150	170	120	165	130	190	150
0.8	1.1	1.2	1.1	1.5	1.2	1.7	1.4	1.0
15	18	14	18	13	18	13	17	18
6	11	12	10	12	16	11	22	11
2	4	4	4	4	4			
200	170	160	200	205	160	110	120	150
220	200	200	230	220	200			
175	180	180	190	180	180			
18	20	25	18	26	18	28	20	19
0.90	0.70	1.0	0.70	0.70	0.70	0.80	0.75	1.1
HB	HB	V-0 (1.5mm)	HB	HB	HB	HB	HB	HB
10 ¹⁵	10 ¹⁵	10 ¹⁴	10 ¹⁵	10 ¹⁵	10 ¹⁵	10 ¹⁵	10 ¹⁵	10 ¹⁵
10 ¹⁶	10 ¹⁴	10 ¹⁴	10 ¹⁷	10 ¹⁴	10 ¹⁶	10 ¹⁷	10 ¹⁶	10 ¹⁶
1.5	1.0	2.0	1.5	1.0	1.1	1.3	1.6	0.7
5.5	6.0	5.6	6.5	6.0	5.4	5.8	5.0	6.0
300	275	600	250	300	275	375	300	275
2	2	4	2	1				
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Product characteristics

SPECIFIC PROPERTIES	NU 461	NU 505	NU 510-1
Good mechanical properties	•		•
High thermal shock resistance	•		•
High dimensional stability		•	•
High long term heat stability	•	•	•
Low linear thermal expansion	•	•	
Good chemical resistance	•	•	
Good electrical insulation properties	•	•	•
High Comparative Tracking Index			
Flammability UL 94 V-0			
Increased thermal conductivity			

APPLICATIONS	NU 461	NU 505	NU 510-1
ELECTRICAL APPL.	Automotive ignition		
	Bushings		•
	Connectors		
	Insulators		
	Transformers		
	Switches		•
ENCAPSULATION	Coils-Windings	•	
	Protection of Electronics		
	Sensors	•	
	Solenoids	•	
	Rotors/Stators	•	
MECHANICAL ENGINEERING	Explosion proofed housings		•
	Housings		•
	Rotor shaft insulation		•
	X-Ray insulation parts		
	Pump and valve parts		•

* The information given in this publication is based on the present state of our knowledge but any conclusions and recommendation of our products under their own conditions and for their own requirements.



NU 514 NU 3723 NU 4414 NU 6110 NU 6200 NU 6210 NU 6640

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Recommendations are made without liability on our part. Buyers and users should make their own assess-

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MORE IS ALWAYS POSSIBLE.