Technical Information

Nonylphenolfree Epilox® - Hardeners

Epoxy systems consisting of Epilox® epoxy resins and Epilox® hardeners from LEUNA-Harze GmbH are ideally suitable for the formulation of construction chemicals like self-levelling coatings or epoxy mortars. Table 1 gives an overview of some selected hardeners.

Table 1: Epilox® hardeners for construction chemicals

	H 10-41	M 1128	M 1131-1	M 1142	M 1150
Type of hardener	Modified polyamine adduct without nonylphenol				
Viscosity at 25 °C [mPas] DIN 16945	70-120	290-340	120-240	40-80	350-450
NHEW [g]	93	93	94	85	115
Reactivity	Medium	High	Medium	Medium	Medium

Epilox® T 19-38/700 (cf. table 2) is a proven resin for construction and civil engineering applications.

Table 2: Epilox® T 19-38/700

	T 19-38/700
Type of resin	Reactive diluted bisphenol A/F-epoxy resin
Viscosity at 25 °C [mPas] DIN 16945	500 - 900
EEW [g] DIN 16 945	180 - 200

Tables 3 and 4 contain information about selected system properties.

Table 3: Processing properties of resin-hardener-mixtures

Epilox® resin	**T 19-38/700**	**T 19-38/700**	**T 19-38/700**	**T 19-38/700**	**T 19-38/700**
Epilox® hardener	**H 10-41**	**M 1128**	**M 1131-1**	**M 1142**	**M 1150**
Mixing ratio*	100: 50	100: 50	100: 50	100: 45	100: 60
Mixing viscosity at 25 °C [mPas]	310	580	400	400	540
Temperature increase (100 g; initial temperature: 23 °C)					
40 °C after [min]	35	15	25	40	30
60 °C after [min]	50	20	30	55	45
Maximum temperature after [°C/min]	140/65	170/30	160/40	155/70	120/65

*: Parts by weight: Parts by weight

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Table 4: Properties of cured resin-hardener-mixtures

Epilox® resin	**T 19-38/700**	**T 19-38/700**	**T 19-38/700**	**T 19-38/700**	**T 19-38/700**
Epilox® hardener	**H 10-41**	**M 1128**	**M 1131-1**	**M 1142**	**M 1150**
Mixing ratio*	100: 50	100: 50	100: 50	100: 45	100: 60
Shore D hardness after					
3 days	78	78	77	78	75
7 days	80	80	79	80	75
28 days	81	82	80	80	78
Mechanical properties of cured material after 28 days at room temperature					
Flexural stress 3,5% [N/mm^2] DIN EN ISO 178	65	65	55	60	50
Flexural strength [N/mm^2] DIN EN ISO 178	65	70	60	70	55
E-Modulus (Flexural test) [N/mm^2] DIN EN ISO 178	2100	2300	1900	1900	1700
Tensile strength [N/mm^2] DIN EN ISO 527-2	40	50	40	55	40
Elongation at break [%] DIN EN ISO 527-2	7	7	9	6	6-7
Thermal properties of cured material after 28 days at room temperature (DSC-measurement, 2 runs, 20 to 200 °C, 10 K/min)					
Glass transition temperature in the first run [°C] ISO 11357-2	40-45	40-45	40-45	50-55	45 - 50
Glass transition temperature in the second run [°C] ISO 11357-2	60-65	70-75	60-65	60-65	60 - 65

*: Parts by weight: Parts by weight

Notice: The information in this document is based on the testing methods established by LEUNA-Harze GmbH and on the knowledge of the characteristics of Epilox® epoxy resins and Epilox® hardeners and is give in good faith. No liability is accepted by LEUNA-Harze GmbH for any system or application in which Epilox® epoxy resins and Epilox® hardeners are utilized.

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