

Encapsulating systems Araldite®

**HUNTSMAN**

*Enriching lives through innovation*

Gießharz ungefüllt  
Raumtemperatur härtend

# Encapsulating systems; curing at room temperature or slightly higher temperatures

## Araldite®: unfilled epoxy

System	resin hardener	DBF HY 2966	DBF HY 842	DBF HY 956	DBF HY 951	CY 220-1 HY 956	CY 221 HY 842	CY 221 HY 2967	CY 221 HY 2966	CY 221 HY 956	CY 223 HY 956	F HY 956	MY 740 HY 840-1	MY 740 HY 956
<b>Type of System</b>		unfilled	unfilled	unfilled	unfilled	unfilled	unfilled	unfilled	unfilled	unfilled	unfilled	unfilled	unfilled	unfilled
<b>Density of casting</b>	g/cm <sup>3</sup>	1.10	1.10	1.10	1.19	1.15	1.10	1.10	1.10	1.15	1.10	1.1		1.10
<b>Mixing ratio</b>	resin/hardener parts by weight	100/25	100/40	100/20	100/10	100/25		100/35	100/25	100/20	100/30	100/25	100/50	100/25
<b>Viscosity</b>	resin mPas/°C	1500 / 25	1500 / 25	1500 / 25	1500 / 25	5000 / 25	450 / 25	450 / 25	450 / 25	450 / 25	500 / 25	11000 / 25	12000 / 25	12000 / 25
	hardener mPas/40 °C	450 / 25	750 / 25	420 / 25	10 / 25	420 / 25	750 / 25	3400 / 25	500 / 25	420 / 25	420 / 25	420 / 25	12500 / 25	420 / 25
	mixture mPas/25°C	1500	800	1000	850	2250	400	750	490	450	595	4410	14000	4390
	mPas/40 °C	700	250	300	280	650			205	75	190	850	2400	820
<b>Pot life</b>	min / °C / mPas	35 / 25 / 5000	100 / 25 / 3000	70 / 25 / 5000	93 / 25 / 5000	25 / 25 / 5000	<b>210 / 25 / 3000</b>	42 / 25 / 3000	33 / 25 / 980	120-180/25/3000	90 / 25 / 15000	38 / 25 / 15000	80 / 25 / 50000	12 / 40 / 1500
		20 / 40 / 5000	75 / 40 / 3000	45 / 40 / 5000	59 / 40 / 5000			19 / 50 / 3000	13 / 40 / 980	60-90/40/3000	31 / 40 / 1500	11 / 40 / 1500	65 / 40 / 50000	
<b>Gel time</b>	min/°C	42 / 25		62 / 40	160 / 25			40 / 25	45 / 40	45 / 40				
		28 / 40		15 / 60	70 / 40			18 / 40	10 / 60	10 / 60			85 / 40	
		10 / 60			20 / 60			8 / 40	4 / 80	4 / 80			27 / 60	
<b>Minimum curing time</b>	h/°C	24 / 25 or 4 / 25 + 4 / 60	24 / 25 or 4 / 25 + 6 / 60	24 / 25 or 4 / 25 + 6 / 60	24 / 25 or 4 / 25 + 4 / 60	24 / 25 or 8-10 / 40 or 3-4 / 60	24 / 25 or 12 / 40	24 / 25 or 4 / 25 + 4 / 60	24 / 25 or 4 / 25 + 4 / 60	24-36 / 25 or 8-10 / 40 or 3-4 / 60	24 / 25 or 6-10 / 40 or 2-3 / 60	24 / 25 or 6-10 / 25 or 2-3 / 100	8 / 80 or 23 / 24 + 8 / 80	24 / 25 or 2-3 / 60
<b>Glass transition temperature</b>	°C	54		64	67	75		25	25		57	80	90	79
<b>Thermal conductivity</b>	25 °C W/mK			0,15					0,2					
<b>Thermal class</b>				E (120 °C)									A (105 °C)	
<b>Shore hardness</b>	23 °C Shore D	80	64	80	85	80	<b>6-10</b>	24	25	32-36	78	74	80-85	74
<b>Tensile strength / flexural strenght</b>	23 °C Mpa	61 / 112	<b>17 / 19.5</b>	58 / 107	52 / n.a.	70 / 120	1,3 / n.a.	6 / n.a.	5 / n.a.	6 / -.-	75 /	69 / -.-	-.- / 105-110	83 / -.-
<b>Elongation break</b>	23 °C %	4.7	<b>31</b>	6.4	11	4	25-35	50-70	55	45	3	4	8.5-9.0	4
<b>Modulus of elasticity</b>	23 °C Mpa	3050		2880	2800		n.a.	n.a.	n.a.		3230	3372	2470-2540	3506
<b>Impact strength</b>		68	44	68	n.a.		n.a.	n.a.	n.a.	30-70		n.a.	n.a.	n.a.
<b>Water absorption</b>	10d/23°C	<b>0.39</b>	1.04	0.63	0.53	0.4	4	1.5	1.8	4	0.51	0.5		0.43
	30min/100°C	0.41	0.54	0.65	0.57	0.7		1.5	1.2		0.34	0.49		<b>0.16</b>
<b>Dielectric dissipation factor tan δ (50 Hz)</b>	23 °C %	0.7	5	0.8	1.2		8.7	9	7.2	7-8	0.4	0.25	0.4	0.4
	60 °C %	6	25	5.5							0.8	1.3	2.1	0.3
	80 °C %	6									9.4	3.5	10.3	3.0
	100 °C %	30										11.6		11.0
<b>Relative permittivity ε<sub>r</sub> (50 Hz)</b>	23 °C	3.9	4.7	4.1	4.2		5.5	6	6.0	6-7	3.5	4.1	<b>2.2</b>	4.1
	60 °C	5.5	8.8	5.5				8.4	8.8		3.8	4.3	<b>2.4</b>	4.3
	80 °C	7									5.1	4.8	<b>3.3</b>	5.0
	100 °C	7.5										5.6		5.5
<b>Volume resistivity ρ</b>	25 °C Ohm cm	8 x 10 <sup>15</sup>	9 x 10 <sup>13</sup>	6 x 10 <sup>15</sup>	7 x 10 <sup>15</sup>		5.4 x 10 <sup>10</sup>	3 x 10 <sup>12</sup>	5 x 10 <sup>12</sup>	5 x 10 <sup>12</sup>	1 x 10 <sup>16</sup>	<b>5 x 10<sup>16</sup></b>		4 x 10 <sup>15</sup>
	60 °C Ohm cm	1 x 10 <sup>13</sup>	3.5 x 10 <sup>10</sup>	1.5 x 10 <sup>13</sup>			4.1 x 10 <sup>9</sup>	7 x 10 <sup>10</sup>			1 x 10 <sup>14</sup>	<b>3 x 10<sup>14</sup></b>		4 x 10 <sup>13</sup>
	80 °C Ohm cm	2 x 10 <sup>11</sup>									4 x 10 <sup>11</sup>	<b>2 x 10<sup>12</sup></b>		6 x 10 <sup>11</sup>
	100 °C Ohm cm	2 x 10 <sup>10</sup>										<b>2 x 10<sup>11</sup></b>		6 x 10 <sup>10</sup>
<b>Breakdown strength</b>	kV/mm	24	24	24	25	21	21	18	21	18	29	21	20-24	28
<b>Tracking resistance CTI</b>	A solution	>600-0.2	>600-0.4	>600-0.2		>600	KA 3c	>600		>600	>600-0.2			>600-0.2
	B solution													
<b>Electrolytic corrosion</b>	grade	A-1	A-1	A-1		A-1	B-2	A-1	AN/1	AB-B/1.4	A-1			A-1

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