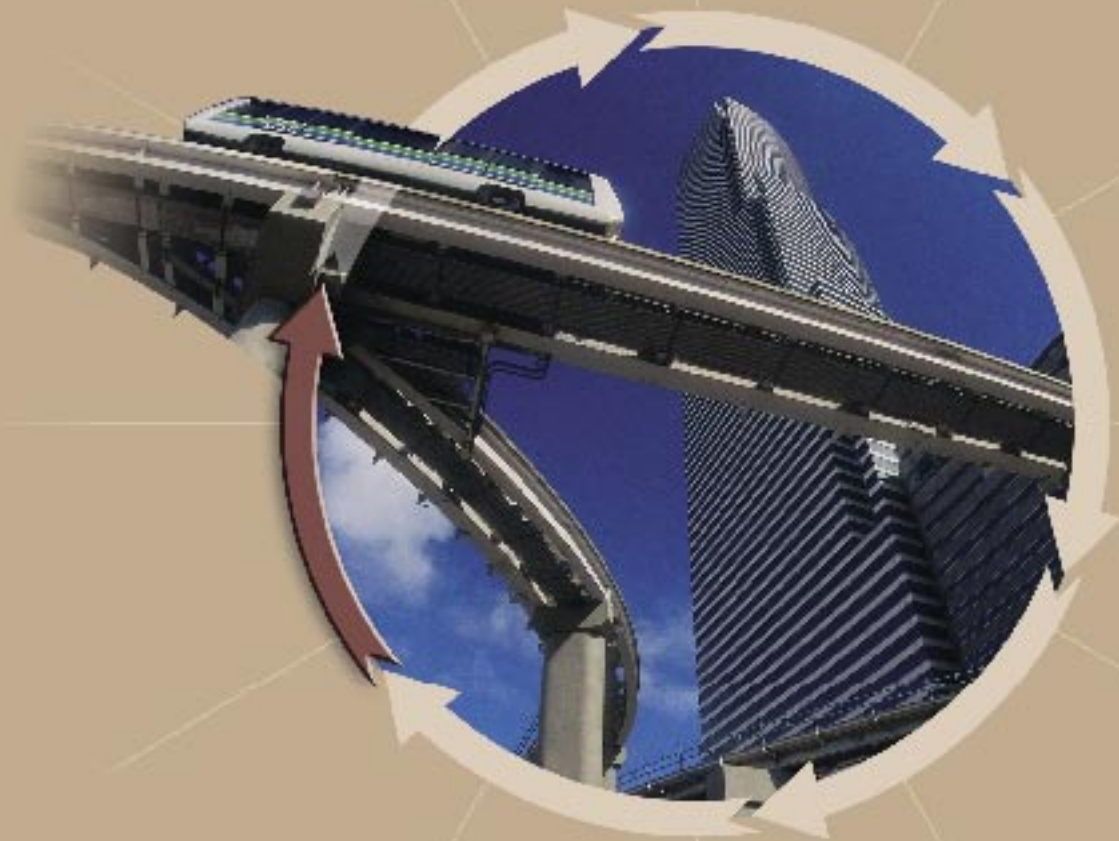


GENERAL INDUSTRY Composite Resins SELECTOR GUIDE

Huntsman Advanced Materials is a leading global supplier of advanced high performance materials for the design, prototyping and production of industrial components.

We combine formulation expertise and applications know-how with in-depth market knowledge, to provide innovative solutions to the industries using fiber reinforcement technologies.



HUNTSMAN

Cold to hot curing matrix systems (Wet lay-up, RTM)

Product	Pot Life at 23°C (min)	Gel Time at 80°C (min)	Recommended Cure Schedule (°C)	T _g * (°C)	Flexural Strength ISO 178 (MPa)	Ultimate Flexural Elongation (%)	K _{1c} (MPa√m)** G _{1c} (J/m²)**
Pot life < 20 minutes							
Araldite® LY 564 / Hardener XB 3458	13-17	2-4	10 min @ 80 + 20 min @ 100	94-100	130-140	7.0-9.5	1.30-1.50 440-520
Resin XB 3585 / Hardener XB 3458	14-18	2-4	10 min @ 80 + 20 min @ 100	110-125	120-130	4.0-5.0	1.05-1.15 280-320
Resin XU 3508 / Hardener XB 3458	14-18	2-4	10 min @ 80 + 20 min @ 100	110-125	120-130	4.0-5.0	-
Pot life < 100 minutes							
Araldite® LY 3505 / Aradur® 3405	26-36	5-11	4 hr @ 60 + 6 hr @ 80	87-92	135-155	7.0-9.0	0.80-0.90 150-190
Resin XB 3585 / Aradur® 3405	30-50	4-11	8 hr @ 80	77-82	140-155	9.0-10.5	0.82-0.92 165-185
Resin XB 3517 / Hardener XB 3418	35-50	10-13	4 hr @ 80	84-90	76-86	2.0-3.0	1.80-1.95 800-1000
Resin XB 3585 / Aradur® 5003-1	40-48	6-8	30 min @ 80 + 20 min @ 120	120-130	100-110	4.0-5.0	0.73-0.83 160-190
Araldite® LY 3297 / Aradur® 3299	40-50	10-16	8 hr @ 80	94-100	123-128	9.0-12.0	0.80-0.90 195-225
Araldite® LY 564 / Aradur® 5003-1	42-52	6-8	30 min @ 80 + 20 min @ 120	100-110	105-115	7.0-9.0	0.90-0.98 240-280
Araldite® LY 3505 / Aradur® 5003-1	42-56	4-7	30 min @ 80 + 2 hr @ 100	110-120	140-150	7.0-8.0	0.90-1.05 210-280
Araldite® LY 3505 / Hardener XB 3404-1	80-100	11-18	4 hr @ 60 + 6 hr @ 80	76-81	125-145	6.5-9.5	0.80-0.95 160-200
Pot life < 200 minutes							
Resin XB 3517 / Hardener XB 3419	100-130	22-26	4 hr @ 80	80-86	72-84	2.0-2.6	1.85-2.05 850-1050
Resin XB 3585 / Hardener XB 3404-1	100-130	10-20	8 hr @ 80	76-84	128-135	8.0-9.5	0.82-0.92 180-200
Araldite® LY 5052 / Aradur® 5052	110-160	14-17	8 hr @ 80	114-122	116-122	8.5-13.4	0.77-0.83 192-212
Araldite® 3297 / Aradur® 3298	120-135	18-26	8 hr @ 80	90-96	125-130	7.0-8.2	0.85-0.95 215-245
Araldite® LY 1564 SP / Aradur® 3487	130-160	18-25	8 hr @ 80	81-86	118-130	10.0-12.0	0.95-1.05 255-305
Pot life > 200 minutes							
Resin XU 3508 / Aradur® 3486	390-480	32-40	5 hr @ 100	95-102	110-125	10.0-12.5	2.20-2.40 1500-1700
Resin XB 3585 / Aradur® 3486	480-580	32-40	5 hr @ 100	100-110	120-130	9.0-12.0	0.90-1.02 250-300
Araldite® LY 1564 / Aradur® 3486	560-620	33-43	8 hr @ 80	80-84	118-130	10.5-12.5	0.95-1.05 260-310
Resin XU 3508 / Hardener XB 3403	600-720	30-36	4 hr @ 60 + 6 hr @ 80	70-75	100-125	9.0-11.0	2.10-2.30 1250-1400
Araldite® LY 3505 / Hardener XB 3403	600-720	36-48	4 hr @ 60 + 6 hr @ 80	78-83	110-130	10.5-13.0	0.95-1.05 250-280
Resin XB 3585 / Hardener XB 3403	700-950	40-55	8 hr @ 80	82-90	118-132	10.5-12.5	0.90-1.00 240-260

* IEC 1006, DSC, 10 K/min • ** Fracture Properties (K_{1c}, G_{1c}): CG Method PM 258-0/90 (Bend Notch Test) / K_{1c} (MPa√m): Fracture toughness - G_{1c} (J/m²): Fracture energy

Hot curing matrix systems (RTM, filament winding, pultrusion)

Product	Pot Life at 23°C (min)	Gel Time at 80°C (min)	Recommended Cure Schedule (°C)	T _g * (°C)	Flexural Strength ISO 178 (MPa)	Ultimate Flexural Elongation (%)	K _{1c} (MPa√m)** G _{1c} (J/m²)**
Pot life < 600 minutes							
Resin XU 3508 / Aradur® 22962	90-150	24-40	1 hr @ 80 + 2 hr @ 150	144-154	120-135	8.0-10.0	0.95-1.15 340-380
Araldite® LY 564 / Aradur® 22962	120-180	20-30	15 min @ 120 + 2 hr @ 150	134-150	120-135	9.0-11.0	0.80-0.95 200-260
Araldite® LY 556 / Aradur® 22962	120-180	18-22	15 min @ 120 + 2 hr @ 150	148-155	130-136	7.5-10.0	0.68-0.78 140-175
Resin XB 3585 / Aradur® 22962	120-180	16-20	15 min @ 120 + 2 hr @ 150	150-158	130-140	7.5-9.0	0.65-0.75 130-160
Resin XU 3508 / Aradur® 2954	300-390	36-56	1 hr @ 80 + 8 hr @ 160	150-158	125-135	7.0-8.0	0.85-1.05 250-290
Araldite® LY 564 / Aradur® 2954	480-600	34-45	1 hr @ 80 + 8 hr @ 140	143-148	120-124	6.5-7.5	0.68-0.76 149-181

Pot life < 2400 minutes

Resin XB 3292 / Aradur® 2954	660-840	34-44	2 hr @ 100 + 2 hr @ 200	220-230	115-125	4.4-4.9	0.53-0.58 75-85
Resin XU 3508 / Hardener XB 3473	1680-1980	> 600	1 hr @ 120 + 2 hr @ 200	160-168	110-125	6.0-7.0	1.20-1.40 420-480
Araldite® LY 556 / Hardener XB 3473	1920-2220	> 600	2 hr @ 120 + 4 hr @ 180	185-195	110-120	5.5-6.5	0.70-0.85 190-220

Pot life > 2400 minutes

Araldite® LY 564 / Aradur® 917 / Accelerator 960-1	> 2880	80-130	4 hr @ 80 + 4 hr @ 120	122-128	140-150	6.0-7.0	0.59-0.70 100-125
Resin XU 3508 / Aradur® 917 / Accelerator DY 070	> 2880	128-160	4 hr @ 80 + 8 hr @ 140	135-145	140-150	5.7-6.7	0.85-0.95 210-240
Araldite® LY 556 / Aradur® 917 / Accelerator DY 070	> 2880	140-160	4 hr @ 80 + 8 hr @ 140	145-153	125-135	6.0-8.5	0.56-0.60 88-96
Araldite® LY 556 / Aradur® 906 / Accelerator DY 070	> 2880	224-256	2 hr @ 120 + 8 hr @ 160	160-165	140-160	4.0-7.0	0.60-0.75 100-125
Araldite® CY 179 MA / Aradur® 917 / Accelerator DY 070	> 2880	120-160	2 hr @ 120 + 6 hr @ 160	188-193	80-105	2.3-3.6	0.50-0.54 72-84
Resin XB 3292 / Hardener XB 3473	> 2880	360-420	2 hr @ 100 + 2 hr @ 200	195-203	98-108	4.1-4.6	0.50-0.55 70-75
Resin XB 3563 / Aradur® 917 / Accelerator DY 070	> 3000	120-160	1 hr @ 100 + 6 hr @ 180	198-206	90-110	2.8-4.5	0.45-0.50 60-65

* IEC 1006, DSC, 10 K/min • ** Fracture Properties (K_{1c}, G_{1c}): CG Method PM 258-0/90 (Bend Notch Test) / K_{1c} (MPa√m): Fracture toughness - G_{1c} (J/m²): Fracture energy

Matrix systems for prepregging

Product	B-Staging	Shelf Life at 23°C	Recommended Cure Schedule (°C)	Tg** (°C)	Comments
Araldite® LZ 5021 / Aradur® 5021	solvent evaporation (3 min @ 140 °C)	9-12 months	25 min @ 125	120-125	Multi-purpose high elongation resin system, for solvent prepregging, very long prepreg shelf life
Araldite® LY 556 / Aradur® 5021 / Hardener XB 3403	24 hr @ RT*	> 6 weeks	8 hr @ 90	102-108	Easy B-staging
Araldite® LY 556 / Aradur® 5021 / Hardener XB 3471	3 min @ 80-90 °C	> 3 weeks	6 hr @ 100	116-122	Sharp B-staging
Araldite® LY 5150 / Aradur® 5021 / Hardener XB 3471	3 min @ 80-90 °C	6-8 weeks	1 hr @ 130	135-145	High Tg prepreg
Resin XU 3508 / Aradur® 5021 / Hardener XB 3403	24 hr @ RT*	> 6 weeks	10 hr @ 90	100-110	Toughened prepreg with easy B-staging
Resin XU 3508 / Aradur® 5021 / Hardener XB 3471	3 min @ 80-90 °C	> 3 weeks	10 hr @ 90	110-120	Toughened prepreg with sharp B-staging

* Room Temperature = 25 °C • ** IEC 1006, DSC, 10 K/min