

1100 SERIES NEEDLE BONDERS



Product Series	1160-M	1161-M	1162-M	1163-M	1180-M					1193-M			1400				
Unique Product Feature	Low-Viscosity Adhesive for Tight Tolerances	Multipurpose Adhesives for a Variety of Plastics and Metals			Variety of Viscosity and Rheological Characteristics or Various Needle and Hub Designs					Recommended for High-Speed Manufacturing			LED Curable Adhesives for Plastics and Metal and High-Speed Needle Bonding				
Available Grades	1160-M	1161-M	1162-M	1163-M	1180-M	1180-M-UR	1180-M-SV04	1180-M-SV05	1180-M-T-UR	1193-M-SV04	1193-M-SV05	1193M-SV05-UR	1401-M-UR	1402-M	1403-M	1404-M-UR	1405M-T-UR-SC
Recommended Substrates	ABS, PC, SS	ABS, PC, SS	ABS, PC, PP, SS	ABS, PC	ABS, GL, PP, SS	ABS, GL, PP, SS	ABS, GL, PP, SS	ABS, GL, PP, SS	ABS, GL, PP, SS	PC, PP, SS	PC, PP, SS	PC, PP, SS	PC, PS, SS	PC, PS, SS	PC, PS, SS	PC, PS, SS	ABS, PC, PMMA, PS, SS
Nominal Viscosity, cP	90	300	200	5,000	150	150	2,500	1,200	6,000	2,000	2,800	2,800	2,800	150	450	6,000	7,000
Rheology	Newtonian	Newtonian	Newtonian	Newtonian	Newtonian	Newtonian	Thixotropic	Thixotropic	Thixotropic	Thixotropic	Thixotropic	Thixotropic	Thixotropic	Newtonian	Newtonian	Thixotropic	Thixotropic
Durometer Hardness	D75	D70	D75	D55	D70	D70	D70	D70	D70	D70	D70	D70	D70	D70	D57	D65	D70
Tensile at Break, Mpa [psi]	21 [3,000]	17 [2,500]	14 [21,000]	13 [1,900]	17 [2,400]	17 [2,500]	17 [2,500]	18 [2,600]	17 [2,500]	21 [3,000]	18 [2,600]	21 [3,100]	22 [3,300]	21 [3,200]	17 [2,500]	23 [3,400]	23 [3,400]
Elongation at Break, %	50	120	160	160	90	66	66	150	66	170	180	200	200	160	80	150	180
Modulus of Elasticity	510 [74,000]	300 [44,000]	393 [57,000]	93 [136,000]	310 [45,000]	330 [48,000]	330 [48,000]	290 [42,000]	330 [48,000]	260 [38,000]	190 [28,000]	250 [36,000]	284 [41,300]	359 [52,170]	367 [53,300]	447 [65,000]	379 [55,000]
Fluorescing*	Blue	Blue	Blue	Blue	Blue	Ultra-Red™	Blue	Blue	Ultra-Red™	Blue	Blue	Ultra-Red™	Ultra-Red™	Blue	Blue	Ultra-Red™	Ultra-Red™
Substrate Bonding Guide																	
ABS acrylonitrile-butadiene-styrene	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
GL glass: borosilicate, quartz, mica	✓	✓	✓	•	✓	✓	✓	✓	✓	✓	✓	✓	✓				
PA polyamide (nylon 6/6)	✓	•	•	•	✓	•	•	•	•	•	•	•	✓	✓	✓	✓	
PC polycarbonate	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
PMMA poly(methyl methacrylate)	✓	✓	✓	•	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
PP polypropylene	ST	ST	ST	ST	ST	ST	ST	ST	ST	ST	ST	ST	ST	ST	ST	ST	ST
SS stainless steel	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓

* U.S. Patents 6,080,450 & 7,892,386

✓ Recommended adhesive

• Limited applications

ST Requires surface treatment (e.g., plasma, corona treatment, etc.)

SV - Special Viscosity T - Thick SC - See-Cure (Patented Color-Change Technology) UR - Ultra-Red™ (Patented Fluorescing Technology)

Individual Product Data Sheets (PDS) list complete test data, with copies of test reports available upon request.