

1100 SERIES NEEDLE

Product Series	1160-M	1161-M	1162-M	1163-M
Unique Product Feature	Low-Viscosity Adhesive for Tight Tolerances	Multipurpose Adhesives for a Variety of Plastics and Metals		
Available Grades	1160-M	1161-M	1162-M	1163-M
Recommended Substrates	ABS, PC, SS	ABS, PC, SS	ABS, PC, SS	ABS, PC
Nominal Viscosity, cP	90	300	200	5,000
Rheology	Newtonian	Newtonian	Newtonian	Newtonian
Durometer Hardness	D75	D70	D75	D55
Tensile at Break, Mpa [psi]	21 [3,000]	17 [2,500]	14 [21,000]	13 [1,900]
Elongation at Break, %	50	120	160	160
Modulus of Elasticity	510 [74,000]	300 [44,000]	393 [57,000]	93 [136,000]
Fluorescing*	Blue	Blue	Blue	Blue
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
SS stainless steel	✓	✓	✓	✓

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

SV - Special Viscosity T - Thick UR - Ultra-Red™

✓ Recommended adhesive

• Limited applications

ST Requires surface treatment (e.g., plasma, corona treatment, etc.) or mechanical lock (see page 7)

BONDERS



1180-M					1193-M		
Variety of Viscosity and Rheological Characteristics for Various Needle and Hub Designs					Recommended for High-Speed Manufacturing		
1180-M	1180-M-UR	1180-M-SV04	1180-M-SV05	1180-M-T-UR	1193-M-SV04	1193-M-SV05	1193M-SV05-UR
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
150	150	2,500	1,200	6,000	2,000	2,800	2,800
Newtonian	Newtonian	Thixotropic	Thixotropic	Thixotropic	Thixotropic	Thixotropic	Thixotropic
D70	D70	D70	D70	D70	D70	D70	D70
17 [2,400]	17 [2,500]	17 [2,500]	18 [2,600]	17 [2,500]	21 [3,000]	18 [2,600]	21 [3,100]
90	66	66	150	66	170	180	200
310 [45,000]	330 [48,000]	330 [48,000]	290 [42,000]	330 [48,000]	260 [38,000]	190 [28,000]	250 [36,000]
Blue	Ultra-Red™	Blue	Blue	Ultra-Red™	Blue	Blue	Ultra-Red™
✓	✓	✓	✓	✓	✓	✓	✓
✓	✓	✓	✓	✓	✓	✓	✓
✓	•	•	•	•	•	•	•
✓	✓	✓	✓	✓	✓	✓	✓
✓	✓	✓	✓	✓	✓	✓	✓
ST	ST	ST	ST	ST	ST	ST	ST
✓	✓	✓	✓	✓	✓	✓	✓

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