

MOULDING OF CONNECTORS AND ELECTRONIC COMPONENTS

PRODUCT PROPERTIES - (typical values)

Updated : 14/02/08 - 20

THERMELT	181	195	817	858	861	865	866	867	
Limit temperatures for use (*) [°C]	-20/+140	-20/+170	-15/+125	-40/+150	-40/+125	-55/+120	-25/+115	-40/+150	
Application temperature [°C]	200/220	210/230	180/210	210/230	190/210	190/210	190/210	220/230	
Softening point (Cup & Ball) [°C]	173	202	168	183	160	158	153	180	
Brookfield viscosity	[Pa.s]	4	4	0.6	5.5	3.4	3	2.5	
	at [°C]	200	232	205	220	200	210	220	
Open time (**) [s]	5	3	5	6	8	10	10	7	
Skin time resistance min. [h]	10	1	8	8	12	12	8	8	
Tensile strength [Mpa]	11	17	4	13	3.5	3	2	6	
Elongation at break [%]	500	630	100	637	300	500	500	500	
Shore hardness	A	98	98	82	98	90	80	94	
	D	53	56	30	44	35	26	40	
Glass transition temperature [°C]	-35	-30	-15	-27	-35	-55	-30	-40	
Moisture absorption (at 23°C/50 % RH) [%]	~0.5	~0.5	~0.3	~0.6	0.6	~0.6	~0.6	0.6	
Electrical properties :									
Mass specific resistivity [Ω*cm]	10 ¹¹	10 ¹¹	10 ¹¹	10 ¹¹	10 ¹¹	10 ¹¹	10 ¹¹	10 ¹¹	
Surface specific resistivity [Ω]	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	
Dielectric rigidity [kV/cm]	~190	~190	~220	~190	190	~190	~190	~190	
Relative permittivity at 50Hz	n.d.	n.d.	8	n.d.	5	6	6	5	
Thermal properties :									
Thermal conductivity [W/m.°K]	at 23°C	~0.2	~0.2	~0.2	~0.2	~0.2	~0.2	~0.2	
	at 180°C	~0.6	~0.6	0.66	~0.6	~0.6	~0.6	~0.6	
α coefficient of linear expansion [ppm/°K]	200-300	200-300	200-300	200-300	200-300	200-300	200-300	200-300	
IMDS	natural		6113151	8123099	67987754	5235748	5235748	5235748	
	black	68207410	68207210	6097357	67989444	6113623	6113623	6113623	
UL 94 flammability test	V0	V2	V0	V0	V0	V2	V2	V0	
CTI (Comparative Tracking Index) [V]	n.d.	n.d.	> 600	n.d.	(1)	> 600	(1)	> 600	

(1) CTI at least > 600 - control tests however not performed.

(*) To be determined according to service and/or testing conditions; if needed consult Bostik s.a..

(**) Open time : determined at 23°C on a 1 mm hot melt layer on aluminium plate.

These values are provided in good faith by our laboratory for guidance only and will in no case involve Bostik s.a.'s liability. The user will remain solely responsible for correct application and use of our products : considering the multiplicity of utilizations and service conditions, users are requested to proceed with their own approval testing before any use. In order to improve quality and performances of its products, Bostik s.a. reserves the right to modify their composition or properties at any time without prior notification.

HOT MELT Adhesives & Resins :
 polyamide, polyester, polymer blends, web

MOULDING OF CONNECTORS AND ELECTRONIC COMPONENTS

PRODUCT PROPERTIES - (typical values)

Updated : 14/02/08 - 20

THERMELT		868W	869	2967	8671	PAR1000	PAR1001	PAR1002
Limit temperatures for use (*)	[°C]	-40/+125	-40/+125	-25/+125	-40/+150	-40/+200	-55/+200	-55/+200
Application temperature	[°C]	190/210	190/210	200/230	220/230	190/200	160/190	~ 190
Softening point (Cup & Ball)	[°C]	160	160	163	180	163	146	141
Brookfield viscosity	[Pa.s]	3.5	3.5	10	2.5	2	2	2.5
	at [°C]	200	200	210	220	177	150	190
Open time (**)	[s]	8	8	10	7	8	10	10
Skin time resistance	min. [h]	7	7	6	8	\	\	\
Tensile strength	[Mpa]	2.5	3.5	6	6	6	2	3.2
Elongation at break	[%]	200	500	600	500	210	100	144
Shore hardness	A	90	90	90	94	80	70	75
	D	35	35	39	40	30	16	19
Glass transition temperature	[°C]	-35	-35	-20	-40	-35	-55	-55
Moisture absorption (at 23°C/50 % RH)	[%]	0.6	0.6	~ 0.4	0.6	~ 0.6	~ 0.6	~ 0.6
Electrical properties :								
Mass specific resistivity	[Ω*cm]	10 ¹¹	10 ¹¹	10 ¹¹	10 ¹¹	10 ¹¹	10 ¹¹	10 ¹¹
Surface specific resistivity	[Ω]	n.d.	n.d.	10 ¹³	n.d.	n.d.	n.d.	n.d.
Dielectric rigidity	[kV/cm]	~190	190	~190	~190	~190	~190	~190
Relative permittivity at 50Hz		5	5	n.d.	5	n.d.	n.d.	n.d.
Thermal properties :								
Thermal conductivity	at 23°C	~0.2	~0.2	~0.2	~0.2	n.d.	n.d.	n.d.
	at 180°C	~0.6	~0.6	~0.6	~0.6	n.d.	n.d.	n.d.
α coefficient of linear expansion	[ppm/°K]	200-300	200-300	200-300	200-300	200-300	200-300	200-300
IMDS	natural		5235748	5235748		11008383	11008383	
	black		6113623	6113623	36471583	36444990		
UL 94 flammability test		V0	V2	n.d.	V0	n.d.	n.d.	n.d.
CTI (Comparative Tracking Index)	[V]	> 600	> 600	(1)	> 600	n.d.	n.d.	n.d.

(1) CTI at ldetermined

n.d. = not determined

(*) To be determined according to service and/or testing conditions; if needed consult Bostik s.a..

(**) Open time : determined at 23°C on a 1 mm hot melt layer on aluminium plate.

These values are provided in good faith by our laboratory for guidance only and will in no case involve Bostik s.a.'s liability. The user will remain solely responsible for correct application and use of our products : considering the multiplicity of utilizations and service conditions, users are requested to proceed with their own approval testing before any use. In order to improve quality and performances of its products, Bostik s.a. reserves the right to modify their composition or properties at any time without prior notification.

HOT MELT Adhesives & Resins :
polyamide, polyester, polymer blends, web

MOULDING OF CONNECTORS AND ELECTRONIC COMPONENTS

CHEMICAL RESISTANCE

Updated : 14/02/08 - 20

THERMELT	181	195	817	858	861	865	866	867
Cooling liquid	A	A	A	A	A	A	A	A
Protection waxes	A	A	A	A	A	A	A	A
Dewaxing agent	A	A	A	A	A	A	A	A
Cold cleaning agent	A - B	A - B	A - B	A - B	A - B	A - B	A - B	A - B
Methylated spirit (IMS)	B	B	B	B	B	B	B	B
Gas oil	A	A	A	A	A	A	A	A
FAM test spirit	B	B	B	B	B	B	B	B
Battery acid	A	A	A - B	A - B	A - B	A - B	B	A - B
Brake fluid	A	A	A	A	A	A	A	A
Motor oil	A	A	A	A	A	A	A	A
Gearbox oil	A	A	A	A	A	A	A	A
ATF automatic transmission fluid	A	A	A	A	A	A	A	A
Dry cleaner	A	A	A	A	A	A	A	A
M15 fuel	A	A	A	A	A	A	A	A

Testing method :

For all chemicals : spray during 20 seconds, then 48 hours maturing at 70°C.

Exception for FAM test spirit : 1 hour in fuel vapors then 24 hours maturing at 70°C.

Expected behaviour : A = no noticeable attack.
B = slight superficial attack.
C = strong attack of resin.

These values are provided in good faith by our laboratory for guidance only and will in no case involve Bostik s.a.'s liability. The user will remain solely responsible for correct application and use of our products : considering the multiplicity of utilizations and service conditions, users are requested to proceed with their own approval testing before any use. In order to improve quality and performances of its products, Bostik s.a. reserves the right to modify their composition or properties at any time without prior notification.

Mould-Properties_EN

3/6

Bostik s.a.

Z.I. Le Lac - B.P. 314
F 07003 PRIVAS CEDEX - France
Tél. +33 (0)4 75 66 13 30 - Fax + 33 (0)4 75 65 81 10
A company of TOTAL

Société anonyme au capital de 81 123 810 euros
Siège social : 12, Place de l'Iris – 92400 Courbevoie
RCS Nanterre B 332 110 097



HOT MELT Adhesives & Resins :
polyamide, polyester, polymer blends, web

MOULDING OF CONNECTORS AND ELECTRONIC COMPONENTS

CHEMICAL RESISTANCE

Updated : 14/02/08 - 20

THERMELT	868W	869	2967	8671	PAR1000	PAR10001	PAR10002
Cooling liquid	A	A	A	A	A	A	A
Protection waxes	A	A	A	A	A	A	A
Dewaxing agent	A	A	A	A	A	A	A
Cold cleaning agent	A - B	A - B	A - B	A - B	A - B	A - B	A - B
Methylated spirit (IMS)	B	B	B	B	B	B	B
Gas oil	A	A	A	A	A	A	A
FAM test spirit	B	B	B	B	B	B	B
Battery acid	A - B	A - B	A - B	A - B	A - B	A - B	A - B
Brake fluid	A	A	A	A	A	A	A
Motor oil	A	A	A	A	A	A	A
Gearbox oil	A	A	A	A	A	A	A
ATF automatic transmission fluid	A	A	A	A	A	A	A
Dry cleaner	A	A	A	A	A	A	A
M15 fuel	A	A	A	A	A	A	A

Testing method :

For all chemicals : spray during 20 seconds, then 48 hours maturing at 70°C.

Exception for FAM test spirit : 1 hour in fuel vapors then 24 hours maturing at 70°C.

Expected A = no noticeable attack.

B = slight superficial attack.

C = strong attack of resin.

These values are provided in good faith by our laboratory for guidance only and will in no case involve Bostik s.a.'s liability. The user will remain solely responsible for correct application and use of our products : considering the multiplicity of utilizations and service conditions, users are requested to proceed with their own approval testing before any use. In order to improve quality and performances of its products, Bostik s.a. reserves the right to modify their composition or properties at any time without prior notification.

Mould-Properties_EN

4/6

Bostik s.a.

Z.I. Le Lac - B.P. 314

F 07003 PRIVAS CEDEX - France

Tél. +33 (0)4 75 66 13 30 - Fax +33 (0)4 75 65 81 10

A compagny of TOTAL

Société anonyme au capital de 81 123 810 euros

Siège social : 12, Place de l'Iris – 92400 Courbevoie

RCS Nanterre B 332 110 097



HOT MELT Adhesives & Resins :
polyamide, polyester, polymer blends, web

MOULDING OF CONNECTORS AND ELECTRONIC COMPONENTS

ADHESION CAPABILITY

Updated : 14/02/08 - 20

THERMELT	181	195	817	858	861	865	866	867
Substrates								
Metals (2) (AL/Cu-alloys + steel)	B	B	A	A	A	A	A	A
Glas (2)	C	C	B	A	A	A	A	A
Ceramic (2)	C	C	B	A	A	A	A	A
PVC Polyvinylchloride (soft + hard)	-	-	B	A	A	A	A	A
PE Polyethylene (1)	-	-	-	-	B	B	B	-
PP Polypropylene (1)	-	-	-	-	B	B	B	-
PBTP Polybutylene terephthalate	-	-	C	B	B	B	A	B
PETP Polyethylene terephthalate	-	-	C	B	B	B	A	B
EP Polyepoxyd resins	-	-	B	B	B	B	B	B
PS Polystyrene	-	-	C	C	C	C	C	C
ABS Acrylonitrile butadiene styrene	-	-	B	A	A	A	A	A
PPO Polyphenylenoxyde	-	-	A	B	B	A	B	B
PA Polyamides	-	-	B	B	A	A	B	B
PC Polycarbonates	-	-	C	B	A	A	A	B
PUR Polyurethanes	-	-	C	C	C	C	C	C

emarks : (1) : with Corona or flaming pretreatment.
(2) : preheating of substrate necessary.

Rating : A = excellent
B = good
C = acceptable
-: poor adhesion

These values are provided in good faith by our laboratory for guidance only and will in no case involve Bostik s.a.'s liability. The user will remain solely responsible for correct application and use of our products : considering the multiplicity of utilizations and service conditions, users are requested to proceed with their own approval testing before any use. In order to improve quality and performances of its products, Bostik s.a. reserves the right to modify their composition or properties at any time without prior notification.

Mould-Properties_EN

5/6

Bostik s.a.
Z.I. Le Lac - B.P. 314
F 07003 PRIVAS CEDEX - France
Tél. +33 (0)4 75 66 13 30 - Fax + 33 (0)4 75 65 81 10
A compagny of TOTAL

Société anonyme au capital de 81 123 810 euros
Siège social : 12, Place de l'Iris – 92400 Courbevoie
RCS Nanterre B 332 110 097



HOT MELT Adhesives & Resins :
 polyamide, polyester, polymer blends, web

MOULDING OF CONNECTORS AND ELECTRONIC COMPONENTS

ADHESION CAPABILITY

Updated : 14/02/08 - 20

THERMELT	868W	869	2967	8671	PAR1000	PAR1001	PAR1002
Substrates							
Metals (2) (AL/Cu-alloys + steel)	A	A	A	A	A	A	A
Glas (2)	A	A	A	A	A	A	A
Ceramic (2)	A	A	A	A	A	A	A
PVC Polyvinylchloride (soft + hard)	A	A	A	A	A	A	A
PE Polyethylene (1)	B	B	B	-	B	B	B
PP Polypropylene (1)	B	B	B	-	B	B	B
PBTP Polybutylene terephthalate	B	B	B	B	B	B	B
PETP Polyethylene terephthalate	B	B	B	B	B	B	B
EP Polyepoxyd resins	B	B	B	B	B	B	B
PS Polystyrene	C	C	C	C	C	C	C
ABS Acrylonitrile butadiene styrene	A	A	A	A	A	A	A
PPO Polyphenylenoxyde	B	B	B	B	B	B	B
PA Polyamides	A	A	B	B	B	B	B
PC Polycarbonates	A	A	B	B	B	B	B
PUR Polyurethanes	C	C	C	C	C	C	C

Remarks : (1) : with Corona or flaming pretreatment.
 (2) : preheating of substrate necessary.

Rating : A = excellent
 B = good
 C = acceptable
 -: poor adhesion

These values are provided in good faith by our laboratory for guidance only and will in no case involve Bostik s.a.'s liability. The user will remain solely responsible for correct application and use of our products : considering the multiplicity of utilizations and service conditions, users are requested to proceed with their own approval testing before any use. In order to improve quality and performances of its products, Bostik s.a. reserves the right to modify their composition or properties at any time without prior notification.

Mould-Properties_EN

6/6

Bostik s.a.
 Z.I. Le Lac - B.P. 314
 F 07003 PRIVAS CEDEX - France
 Tél. +33 (0)4 75 66 13 30 - Fax + 33 (0)4 75 65 81 10
 A compagny of TOTAL

Société anonyme au capital de 81 123 810 euros
 Siège social : 12, Place de l'Iris – 92400 Courbevoie
 RCS Nanterre B 332 110 097

