



2K Epoxy Structural Adhesive toughened with epoxy-silicone block copolymer

Basis Epoxy resin (bisphenol A and aliphatic polyamine, mannich base)

	L00054.1	Control without filler [1]	Control fumed silica [2]	SILLITIN V 85 [5]	SILLITIN Z 86 PURISS [6]	AKTISIL PF 777 [8]	AKTISIL Q [9]
Component A							
Epikote Resin 828 LVEL	(1)	80	80	80	80	80	80
Albiflex 297	(2)	20	20	20	20	20	20
Dynasytan 9116	(2)	3	3	3	3	3	3
Fumed silica		---	5	---	---	---	---
SILLITIN V 85	(3)	---	---	50	---	---	---
SILLITIN Z 86 PURISS	(3)	---	---	---	50	---	---
AKTISIL PF 777	(3)	---	---	---	---	50	---
AKTISIL Q	(3)	---	---	---	---	---	50
Total parts by weight Component A		103	108	153	153	153	153
Component B							
Ancamine 2719	(2)	34.37	34.37	34.37	34.37	34.37	34.37
Total parts by weight Component A+B		137.37	142.37	187.37	187.37	187.37	187.37

Recommendation

SILLITIN V 85	Standard product, very high peel resistance
SILLITIN Z 86 PURISS	easy to disperse, very high peel resistance
AKTISIL PF 777	rheologically active, highest peel resistance
AKTISIL Q	low viscosity, highest peel resistance

Suppliers

- (1) Westlake
- (2) Evonik Industries
- (3) HOFFMANN MINERAL

More information on this topic:

[Neuburg Siliceous Earth in toughened 2K-epoxy-structural-adhesive](#)



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Mixing / Processing

Component A was prepared with a speedmixer:

Resin, Abiflex and silane	60 s @ 1000 rpm + 120 s @ 2000 rpm
+ half of filler	30 s @ 800 rpm
+ rest of filler	30 s @ 800 rpm
clean lid and rim	60 s @ 1000 rpm
clean lid, rim and bottom	300 s @ 2000 rpm
clean lid, rim and bottom	60 s @ 1000 rpm + 120 s @ 2000 rpm

Mixing before application was also carried out on the speedmixer:

Component A + B	60 s @ 1000 rpm + 120 s @ 2000 rpm
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Rheology

Viscosity component A

@ 0.1 s-1	Pa·s	17	463	118	213	325	50
@ 100 s-1	Pa·s	11	22	21	24	21	20

Viscosity component A+B

@ 0.1 s-1	Pa·s	7	102	27	59	80	15
@ 100 s-1	Pa·s	6	9	10	12	12	10

Storage stability component A

Sedimentation, 8 w @ RT	---	without	without	without	without	without
Change in rheology, 12 w @ RT	---	no	no	no	no	no

Mechanical properties, Cr3 passivated aluminum, 100 µm adhesive layer

Lap shear strength	MPa	2.8	3.0	3.4	2.3	3.5	3.1
Peel resistance T-Peel	N/100 mm	22	20	61	62	70	72

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