1K STP-U adhesive, high strength
50 Shore D

Basis silane-terminated polyurethane

			SILFIT Z 91	AKTIFIT PF 115	AKTIFIT PF 111
	V44426.1		[2]	[6]	[4]
Step 1	Desmoseal S XP 2821	(1)	38.88	38.88	38.88
	Irganox 1135	(2)	0.46	0.46	0.46
	Bayferrox 415	(3)	0.28	0.28	0.28
	CAB-O-SIL TS-720	(4)	0.95	0.95	0.95
	SILFIT Z 91	(5)	53.71	---	---
	AKTIFIT PF 115	(5)	---	53.71	---
	AKTIFIT PF 111	(5)	---	---	53.71
	Dynasylan VTMO	(6)	2.61	2.61	2.61
	DBU (Diazabicycloundecene)	(7)	0.11	0.11	0.11
Step 2	Dynasylan 1146	(5)	1.50	1.50	1.50
	Dynasylan AMEO	(5)	1.50	1.50	1.50
	Total parts by weight		100.00	100.00	100.00

Recommendation

[2] SILFIT Z 91
- low moisture content of the filler
- white and color-neutral
- cost effective
- good mechanical properties

[6] AKTIFIT PF 115
- very low moisture content and nearly no moisture absorption at damp conditions
- white and color-neutral
- for highest requirements on tensile strength and lap shear strength

[4] AKTIFIT PF 111
- very low moisture content and very low moisture absorption at damp conditions
- white and color-neutral
- rheology control along with high strength, high elongation at break and high tear resistance

Suppliers

(1) Covestro
(2) BASF
(3) Lanxess
(4) Cabot
(5) HOFFMANN MINERAL
(6) Evonik Industries
(7) Sigma Aldrich

Münchener Straße 75 • DE-86633 Neuburg (Donau)
Phone +49 8431 53-0 • info@hoffmann-mineral.com

				SILFIT Z 91	AKTIFIT PF 115	AKTIFIT PF 111
	V44426.1			[2]	[6]	[4]
Properties	Complex viscosity	DIN 54458				
	@ 50 % deformation		Pa·s	155	222	130
	@ 0.1 % deformation		Pa·s	227	143	931
	In-depth cure after 24h		mm	2.1	2.1	2.2
	Hardness	DIN ISO 7619-1	Shore D	51	51	49
	Tensile strength	DIN 53504, S2	MPa	14.2	14.1	12.6
	Elongation at break	DIN 53504, S2	%	20	22	30
	Tear resistance	DIN ISO 34-1, B	N/mm	7.3	8.5	12.9
	Lap shear strength, substrate: beech/beech,		DIN EN 205			
	0.1 mm layer gap, 7d		MPa	13.9	16.7	14.3

Note: *In the test the strength of the wood is approached, so that partly wood fiber breakouts are to be seen.*

Mixing

For the preparation a vacuum mixer equipped with dissolver disc, kneading tool and side scraper is suitable.

Step 1
- charge polymer, pigment and antioxidant
- add rheological additive while stirring
- add filler (not pre-dried) while stirring
- add adhesion promoter and catalyst
- disperse under vacuum and cooling:
  - 5 min at 3000 rpm and 600 rpm
  - 10 min at 1000 rpm and 300 rpm
  - 5 min at 800 rpm and 300 rpm
- cool down to < 60 °C

Step 2
- add both adhesion promoters
- disperse under vacuum and cooling:
  - 15 min at 1000 rpm and 300 rpm
- fill into cartridge

More information on this topic:

Calcined Neuburg Siliceous Earth in Adhesives with High Strength Based on Silane Terminated Polyurethanes (STP-U)

Münchener Straße 75 • DE-86633 Neuburg (Donau)
Phone +49 8431 53-0 • info@hoffmann-mineral.com