Adhesive based on silane-terminated polyether
Maximum Strength
80 Shore A

Basis silane-terminated polyether

		SILLITIN V 85	SILFIT Z 91	AKTIFIT VM
V44303.2		[23]	[25]	[27]
Geniosil STP-E 10	(1)	42.1	42.1	42.1
Geniosil XL 10	(1)	2.3	2.3	2.3
SILLITIN V 85	(2)	54.4	---	---
SILFIT Z 91	(2)	---	54.4	---
AKTIFIT VM	(2)	---	---	54.4
Geniosil GF 96	(1)	1.2	1.2	1.2
Total parts by weight		100.0	100.0	100.0

Recommendation

[23] SILLITIN V 85
very cost-effective
high strength

[25] SILFIT Z 91
low moisture content
white and color-neutral
cost effective
very high strength

[27] AKTIFIT VM
very low moisture content and practically no moisture absorption at damp conditions
white and color-neutral
very high strength
excellent hot water resistance

Note The sagging behavior of the formulation can be controlled by adding a rheological additive (e. g. HDK H 18, Wacker Chemie).

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	V44303.2	[23]	[25]	[27]

Mixing

For the preparation a planetary mixer equipped with two kneading tools and scraper is suitable.
The formulation is prepared at room temperature in typically 10-15 min.

- charge polymer Geniosil STP-E 10 and drying agent Geniosil XL 10
- add filler (not pre-dried) while stirring
- disperse 2 min at 600 rpm
- add adhesion promoter Geniosil GF 96
- disperse 1 min at 600 rpm under vacuum
- remove compound from the stirrer
- disperse 1 min at 600 rpm under vacuum
- degas 1 min at 200 rpm under vacuum
- fill into a cartridge

Suppliers

(1) Wacker Chemie
(2) HOFFMANN MINERAL

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				SILLITIN V 85	SILFIT Z 91	AKTIFIT VM
	V44303.2			[23]	[25]	[27]
Properties	Complex viscosity	DIN 54458				
	@ 50 % deformation		Pa·s	48	48	35
	@ 0.1 % deformation		Pa·s	59	59	46
	Loss factor tanδ @ 0.1 % deformation		-	> 10	> 10	> 10
	Hardness	DIN ISO 7619-1	Shore A	75	80	80
	Tensile strength	DIN 53504, S2	MPa	6.9	10.2	10.0
	Elongation at break	DIN 53504, S2	%	125	134	117
	Lap shear test, DIN EN 14293, substrate: oak					
	1 mm adhesive layer – „soft“ parquet adhesive					
	required: lap shear strength > 0.5 MPa, displacement > 2 (@ 1 mm adhesive layer)					
	Lap shear strength		MPa	5.2	5.8	6.0
	Displacement		mm	1.9	2.1	2.1
	Adhesion (visual assessment)			+	+	+
	approx. 0.1 mm adhesive layer – „hard“ parquet adhesive					
	required: lap shear strength after 3 d > 3.0 MPa, after 28 d > 3.5 MPa					
	Lap shear strength	3 d	MPa	3.8	4.9	5.7
	Lap shear strength	28 d	MPa	5.0	6.0	6.6
	Adhesion (visual assessment)			+	+	+

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

More information on this topic:

Neuburg Siliceous Earth in adhesives based on silane terminated polyether (STP-E), e. g. for parquet and industry

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