

OTHER APPLICATION

Generally

Silfit Z 91 compared to calcined clay

improved aging performance, high temperature resistance

70/75 Shore A, HNBR, peroxide cure

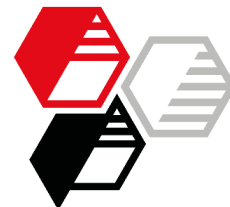
Guide formulations of Arlanxeo		UF201 1	UF201 2
Therban 3607		100.0	100.0
Vulkasil A1		20.0	20.0
Calcined clay		80.0	---
SILFIT Z 91		---	80.0
Silquest RC-1		1.0	1.0
Hatcol 200		10.0	10.0
Luvomaxx CDPA		1.2	1.2
Vulkanox ZMB2		0.4	0.4
Maglite DE		3.0	3.0
Zinkoxyd aktiv		3.0	3.0
Rhenofit TRIM/S		2.5	2.5
Perkadox 14-40		8.0	8.0
Total phr		229.1	229.1
Density (calculated)	g/cm ³	1.373	1.373

Mooney Viscosity

ML (1+4) 100 °C	MU	85.6	89.2
MSR	(log) MU/s	0.623	0.629
Rel. decay @ 30 s	%	4.81	4.79

MDR, 180 °C, 20 min, S16

S' min	dNm	1.38	1.52
S' max	dNm	27.39	28.41
S' final	dNm	27.20	28.08
Delta S'	dNm	26.01	26.89
TS 1	s	31	30
TS 2		38	37
t ₁₀	s	41	40
t ₂₅	s	59	58
t ₃₀	s	66	65
t ₅₀	s	99	97
t ₇₀	s	154	148
t ₈₀	s	198	188
t ₉₀	s	277	258
t ₉₅	s	356	324
S'@t ₉₀	dNm	24.79	25.72
t@S'max	s	797	655
tan D of end value		0.04	0.04



UF201 1

UF201 2

Physical properties**Press cure 10+5 min @ 180 °C + post cure 4 h @ 150 °C**

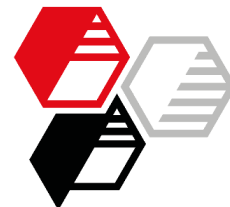
Hardness	Shore A	72	73
Tensile strength	MPa	20.8	22.2
Elongation at break	%	201	215
Modulus 10 %	MPa	0.9	0.9
Modulus 25 %	MPa	1.7	1.5
Modulus 50 %	MPa	3.5	2.9
Modulus 100 %	MPa	10.7	8.8
Compression set, DIN ISO 815			
24 h @ 150 °C, 25 % deflection	%	17	15
168 h @ 175 °C, 25 % deflection	%	41	37

Air aging, 168 h @ 150 °C

Hardness	Shore A	73	75
Tensile strength	MPa	20.6	21.8
Elongation at break	%	199	211
Modulus 10 %	MPa	1.0	0.9
Modulus 25 %	MPa	1.8	1.7
Modulus 50 %	MPa	3.9	3.1
Modulus 100 %	MPa	10.9	8.9
Δ Hardness	Shore A	+1	+2
Δ Tensile strength	%	-1	-2
Δ Elongation at break	%, rel	-1	-2

Air aging, 504 h @ 150 °C

Hardness	Shore A	81	81
Tensile strength	MPa	19.7	20.7
Elongation at break	%	152	161
Modulus 10 %	MPa	1.5	1.4
Modulus 25 %	MPa	3.2	3.0
Modulus 50 %	MPa	7.3	6.7
Modulus 100 %	MPa	15.6	15.2
Δ Hardness	Shore A	+9	+8
Δ Tensile strength	%	-5	-7
Δ Elongation at break	%, rel	-24	-25



UF201 1

UF201 2

Air aging, 168 h @ 175 °C

Hardness	Shore A	82	83
Tensile strength	MPa	17.8	20.3
Elongation at break	%	114	161
Modulus 10 %	MPa	1.6	1.5
Modulus 25 %	MPa	3.6	3.3
Modulus 50 %	MPa	8.4	7.3
Modulus 100 %	MPa	16.4	15.4
Δ Hardness	Shore A	+10	+10
Δ Tensile strength	%	-14	-9
Δ Elongation at break	%, rel	-43	-25

Immersion in IRM 903, 168 h @ 150 °C

Hardness	Shore A	68	68
Tensile strength	MPa	19.2	20.8
Elongation at break	%	183	183
Modulus 10 %	MPa	0.7	0.7
Modulus 25 %	MPa	1.4	1.4
Modulus 50 %	MPa	3.0	2.7
Modulus 100 %	MPa	9.4	9.0
Δ Hardness	Shore A	-4	-5
Δ Tensile strength	%	-8	-6
Δ Elongation at break	%, rel	-9	-15
Δ Weight	%	+5.8	+5.4
Δ Volume	%	+8.6	+8.2

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