CONSTRUCTION INDUSTRY
Profile, solid, black

Building profile, replacement of carbon black by AKTISIL VM 56
65 Shore A, EPDM, peroxide cure

Start formulation DIN 7863 and RAL GZ 716/1 A/II

		Control		
Guide formulations of HOFFMANN MINERAL	M 598.1	14	11	2
Keltan 8340A)*		100	100	100
Lipoxol 4000		2	2	2
Aflux 42		3	3	3
Kezadol GR		10	10	10
Corax N 550/30		180	5	5
AKTISIL VM 56		---	250	300
Process Oil P 460 (ex Sunpar 2280)		80	57	67
TAC/GR 50		3	3	3
Perkadox 14-40B-pd		8	8	8
Total phr		386	438	498
Density	g/cm³	1.20	1.48	1.53

)* No longer available. Recommended: Keltan 8550C

Mooney Viscosity					
ML (1+4) 120°C	DIN 53523, T3	MU	60	59	60
ML (1+4) 100°C	DIN 53523, T3	MU	75	74	75
Mooney Scorch					
ML (5 MU) 120°C	DIN 53523, T4	min	69	> 90	> 90
Rotorless curemeter, 180°C					
Mmin	DIN 53529, T3	Nm	0.179	0.125	0.137
Mmax	DIN 53529, T3	Nm	0.625	0.830	0.785
t_5	DIN 53529, T3	min	0.5	0.6	0.6
t_{90}	DIN 53529, T3	min	5.8	6.5	7.2

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

			Control			
		M 598.1	14	11	2	
Physical properties						**Standard requirements**
Press cure @ 180°C			**6.3 min**	**7.2 min**	**7.9 min**	
Hardness	DIN ISO 7619-1	Shore A	64	66	68	
Δ Hardness 22 h @ -10°C		Shore A	+10	+7	+7	≤ 10
Modulus 50 %	DIN 53504, S2	MPa	1.3	1.8	1.8	
Modulus 100 %	DIN 53504, S2	MPa	2.4	3.9	3.7	
Modulus 200 %	DIN 53504, S2	MPa	5.9	7.3	6.6	
Modulus 300 %	DIN 53504, S2	MPa	7.3	---	---	
Tensile strength	DIN 53504, S2	MPa	8.5	8.3	7.8	≥ 7,5
Elongation at break	DIN 53504, S2	%	305	220	255	≥ 200
Rebound	DIN 53512	%	30	43	40	
Tear resistance	DIN ISO 34-1, A	N/mm	8.9	4.7	5.2	
Compression set	DIN ISO 815, B					
22 h @ 23°C, 25 % deflection		%	14.0	9.6	13.6	≤ 15
24 h @ 100°C, 25 % deflection		%	11.6	11.1	15.4	≤ 35

More information on this topic:

Black Building Profiles acc. to DIN 7863 and RAL-GZ 716/1 - Alternatives to Carbon Black: Aktisil VM 56

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