

# SILIKON M MATERIAL DATA SHEET



**FIRE RESISTANT - LOW SMOKE - LOW TOXIC EPDM 60° SHORE 'A'**  
**APPROVED TO EN 45545-2: 2013 + A1:2015**  
**HL3 for R22 and R23 Requirements**  
**QUALITY NO. H 45 - 1000**

Mechanical Properties		
Colour	Black	
Hardness	60° (+/-5°) Shore 'A'	ISO 7619-1
Density	1.51 g/cm <sup>3</sup> Apprx.	ISO 1183
Tensile Strength	ca 5N/mm <sup>2</sup>	DIN 53 504 / ISO 37
Elongation @ Break	> 400 %	DIN 53 504 / ISO 37
Tear Strength	Ca 5N/mm	ISO 34-1 A
Compression Set (24hrs @ 70°C)	16%	ISO 815
Electrical Volume Resistivity	1.5 x 10 <sup>14</sup> ohm cm	IEC 60093
Ozone Resistance: 168h /40°C / 50pphm / 20% elongation	Result: No cracks	DIN ISO 1431-1
No carcinogenic nitrosamine generating raw materials are used.		

1mm to 6mm - Calendered Sheet c/w Fine Fabric Surface Finish - Rolls: 1600mm wide x 10m long  
(Smooth Surface Finish available - made to order)



(<0.02%)



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**Disclaimer:** All information shown in this data sheet is based on our testing & experience & is to the best of our knowledge. It represents an accurate presentation of the product. The data are typical values & are not to be used as the end use specification. It is the customers' responsibility to test the suitability of the material for their application. Any recommendations for use are for guidance only & are offered without warranty or guarantee. Subject to change without notice.

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SILIKON M AU[XUYbU8]\_Ya Ub  
ul. Wiosenna 53, 57-300 Kłodzko, Poland  
tel: +48 502 742 056  
e-mail: [biuro@silikony.ng.pl](mailto:biuro@silikony.ng.pl)  
internet: [www.silikony.ng.pl](http://www.silikony.ng.pl)



**RAILFLEX® LOW SMOKE – LOW TOXIC EPDM 60 SHORE ‘A’  
 APPROVED TO EN 45545-2: 2013 + A1: 2015  
 HL3 for R22 and R23 Requirements  
 Quality No. H 45 – 1000**

NORM	STANDARDS	TEST REPORTS	TESTED BY
EN 45545-2: 2013 +A1: 2015 Set Requirements R22/R23 Hazard Level HL3	ISO 5659-2 ISO 4589-2 NFX 70 – 100 - 1 NFX 70 – 100 – 2	REE 59 -1445/16/158 A REE 1I 1445/07/342 A CCE F 1445/07/342 A CCE F 1445/07/342 A 1445/16/158 A	Crepim France  Crepim France
DIN 5510-2 Classification S4-SR2-ST2	DIN 5510-2 ISO 5659-2	RE 59-1445/04/086 A	Crepim France
UL94 V(0)	V(0) Vertical Burn Test	KUEXT07632 KUEXT07807	U.L.- Thermoplastics Testing Center
ECE – R118, App. 8	Vertical Burn Test	20649290-20 (Result 0)	DMT Germany
NF F 16-101 Class F1- I2	NF F 16-101 F1 – I2 NF X 10-702 NF X 70 – 100 ISO 4589-1 / -2 / EN 60695-2	CCE F 1445/07/342 A CCE I 1445/07/342 A RE 1I 1445/04/086 A RE 1F 1445/04/086 A	Crepim France
NFPA 130 Hazard Rating System	ASTM C1166 ASTM E662 SMP 800-C	15-002-410 (A) 15-002-410 (B) 15-002-410 (C)	EXOVA WarringtonFire - North America
British Standard BS 6853 - Table 7 Cat II + Annex ‘D’	ISO 4589-2	RE1I 1445/04/086 A CCE I 1445/07/342 A	Crepim France

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# PHYSICAL PROPERTIES & TEST RESULTS SUMMARY

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Mischung / compound		<b>H 45-1000</b>		Spezifikation/specification <b>EN 455 45-2, UL 94 V, DIN 5510-2, NF F 16-101, ECE-R118, NFPA 130, BS 6853</b>	
<b>EPDM solid , 60-65 Shore A, extrusion compound, flame retardant , non-halogen (&lt;0,02%)</b>					
Pos.	Eigenschaften/ properties	Methode method	Einheit unit	Sollwert requirement	Ergebnis result
1	Elastomer / polymer	DIN ISO 1629		EPDM	EPDM
2	Vernetzung / curing system			-	Schwefel/sulphur
3	Farbe / color			schwarz/black	schwarz/black
4	Dichte / specific gravity	EN ISO 1183	g/cm <sup>3</sup>	-	approx. 1,51
5	Härte / hardness	DIN ISO 7619-1	SH A	60+-5	64
6	Zugfestigkeit / tensile strength	DIN 53 504	N/mm <sup>2</sup>	-	ca. 5
7	Reißdehnung / elongation at break	DIN 53 504	%	-	> 400
8	Weiterreißwiderstand / tear strength	DIN ISO 34-1 A	N/mm	-	ca. 5
9	Druckverf.rest/ compr. set 24h/70°C	ISO 815	%	-	16
10	Druckverf.rest/ compr. set 24h/100°C	ISO 815	%	-	38
11	Ozonbeständigkeit/ 168h/40°C/50 pphm ozon resistance 20% elongation	DIN ISO 1431-1		Keine Risse/ No cracks	Keine Risse/ No cracks
12	Nitrosaminfrei/ nitrosamine generating	Es werden <b>keine</b> Rohstoffe eingesetzt die krebserregende Nitrosamine bilden/ <b>no</b> carcinogenic nitrosamine generating raw materials are used			
13.1	Halogenfrei / non-halogen		halogenfrei / non-halogen (<0,02 %)		
13.2	REACH/SVHC Konformität/compliance		entspricht/ compliant		
14	<b>EN 455 45 classification (2016)</b>	EN 45545-2	class		<b>R22/23, HL3</b>
14.1	Rauchdichte / smoke density Gasanalyse/ gas analysis	EN ISO 5659-2	Ds max	max. 150 (HL3)	57
14.2	Sauerstoff-Index / Limiting Oxygen Index LOI	ISO 4589-2	%	min. 32 (HL3)	36
14.3	Toxizität / toxicity	NF X 70-100-1 NF X 70-100-2	CIT NLP	max. 0,75 (HL3)	0,12
15	<b>DIN 5510 classification</b>	DIN 5510-2	class		<b>S4-SR2-ST2</b>
15.1	Brennprüfung / flammability	DIN 548 37			S4-SR2-ST2
15.2	Toxizität / toxicity (2+6mm)	DIN EN ISO 5659-2	FED tzul=15 FED tzul=30	< 1 < 1	0,04/0,04 0,08/0,1
16	<b>UL 94 V Brennprüfung / flammability</b>				
16.1	3 & 6,5 mm Dicke/thickness	UL 94 V	class	-	<b>V-0</b>
17	<b>ECE-R118 Anhang/appendix 8</b>				
17.1	Vertikale Prüfung/vertical burning, 2mm	ECE-R118	mm/min	<100	<b>0</b>
18	<b>NF F 16-101 classification</b>	NF F 16 101	class		<b>F1-I2</b>
18.1	Rauchdichte/smoke density Gasanalyse/ gas analysis	NF X 10-702 NF X 70-100	IF	<20 (F1)	10
18.2	Sauerstoff-Index/Limiting Oxygen Index	ISO 4589-1/-2	%	>32 (I2)	36,1
18.3	Glühdraht/ glow wire test	NF EN 60695-2- 10/11	°C	min. 850	960
19	<b>NFPA 130 classification</b>			<b>ASTM C1166, ASTM E662, SMP 800-C</b>	
19.1	Flammen Ausbreitung / Flame Propagation	ASTM C 1166-06	ln/min	max. 4	1,6 No melting/dripping
19.2	Rauchgasdichte / smoke generation Optical Density at 1.5 minutes Optical Density at 4.0 minutes	ASTM E 662-15 Flaming mode Flaming mode		max. 100 max. 200	40 64
19.3	Toxizität / toxicity Bombadier	SMP 800-C	ppm		erfüllt/passed



**SILIKON M**  
 ul. Wiosenna 53, 57-300 Kłodzko, Poland  
 tel: +48 502 626 867 / 074  
 fax: +48 74 647 07 70  
 internet: www.silikony.ng.pl

# PHYSICAL PROPERTIES & TEST RESULTS SUMMARY

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Lieferant/ supplier <b>HEXPOL COMPOUNDING GMBH</b> D-41836 HÜCKELHOVEN		Kunde /Customer <b>diverse/miscellaneous</b>			
Mischung / compound <b>HexFlame 45-1000</b>		Spezifikation/specification <b>EN 455 45-2, UL 94 V, DIN 5510-2, NF F 16-101, ECE-R118, NFPA 130, BS 6853</b>			
<b>EPDM solid , 60-65 Shore A, extrusion compound, flame retardant , non-halogen (&lt;0,02%)</b>					
Pos.	Eigenschaften/ properties	Methode method	Einheit unit	Sollwert requirement	Ergebnis result
20	<b>British Standard BS 6853 classification</b>			<b>Table 7 Cat. II</b>	
20.1	Sauerstoff-Index / Limiting Oxygen Index LOI	ISO 4589-2 10 mm	%	min. 28 (cat. II)	37,9
20.2	Rauchdichte / smoke density	BS 6853 Annex D.8.3:	A <sub>0</sub> m <sup>2</sup> /g	max. 0,061 (cat. II)	0,033
20.3	Toxizität / toxicity	BS 6853 Annex B.1	R	max. 3,6 (cat. II)	0,4
21	Brennwert / effective heat of combustion	ISO 5660-1 Cone	MJ/kg	-	22,61
22	Glasübergangstemperatur/ Glass transition temp	BMW GS 97036	°C	-	- 64
23	Elektr. Durchgangswiderstand/ Electr. Volume resistivity	IEC 60093	Ohmcm	-	1,5E+14
24	Gebrauchstemperaturbereich/ service temperature range	-	°C	-	-40 / +100
25	Kältebruchtemperatur / Brittleness temperature	ASTM D 2137 A	°C		-47
Die Ergebnisse wurden an vulkanisierten (10 min/180°C) Prüfplatten ermittelt. Test results were determined on vulcanized (10 min/180°C) test sheets.					



**SILIKON M**  
ul. Wiosenna 53, 57-300 Kłodzko, Poland  
tel: +48 502 626 867 / 074  
fax: +48 74 647 07 70  
internet: [www.silikony.ng.pl](http://www.silikony.ng.pl)