

# TABOCAB® CABLE COMPOUNDS



TABOCAB® is a comprehensive range of compounds intended primarily for producing cables for various sectors. This particularly concerns sectors such as construction (incl. CPR), industry, automotive and renewable resources.

## HFFR thermoplastic compounds

### Properties

The HFFR compound product range is a group of thermoplastic, halogen-free flame retardant, low-smoke and non-toxic compounds based on polyolefins and mineral fillers. These compounds are used to produce cable insulation and sheathing. These compounds are developed to be easy to process and for optimally high productivity. The individual compounds are designed depending on the type of end cable application so that these retain their thermo-mechanical properties and a high level of fire retardancy, and therefore provide a solution with greater protection of people and property in case of fire.

### Processing

We recommend that these compounds be processed using low-compression extrusion machines. They can also be processed using screw extruders for PVC, but with the expectation of lower performance. Individual process and technical parameters are given in the specific TDS for the HFFR compounds.

### Storage conditions

The compounds must be stored in dry, covered areas at ambient temperatures not exceeding 30°C. The compounds must be stored in their original, undamaged packaging as supplied by the SILON s.r.o. manufacturer. They must not be exposed to moisture, sunlight or thermal radiation. The maximum compound storage period is usually 9 months from the date of manufacture marked on the product packaging.

### Packaging

Compounds are supplied in 600 kg and 1 000 kg packaging in octabins on wooden pallets.

## HFFR-XL thermosetting compounds

### Properties

The HFFR-XL compound product range is a group of thermosetting, halogen-free flame retardant, low-smoke and non-toxic compounds based on polyolefins and mineral fillers, which can be cross-linked using heat or moisture. A catalyst masterbatch is added during the final extrusion together with the main compound (SIOPLAS method). These products are suitable for producing cross-linked insulation or sheathing.

### Processing

Before extrusion, the compound must be mixed with the specific quantity of catalyst masterbatch specified in the TDS for the relevant material. Correct processing of silane-grafted compounds with the catalyst masterbatch depends on the speed of extrusion; the faster the material is extruded, the better the results. Any delays, e.g., interruption of production, along with high temperatures, have a negative impact on the quality of processing, which can lead to premature cross-linking. The extruded compound must be cooled in a water bath. We recommend that the cross-linking process take place in hot water or a low-pressure steam bath. Cross-linking is also possible using air humidity. The dependence of the cross-linking kinetics on the thickness of the extruded layer of insulation or sheathing and on the ambient temperature and humidity at the site of storage of the finished product or semi-finished product must be taken into account in such cases. We recommend that these compounds be processed on higher-compression extrusion machines.

The individual process and technical parameters are given in the specific TDS for HFFR-XL compounds.

### Storage conditions

The compounds must be stored in dry, covered areas at ambient temperatures not exceeding 30°C. The compounds must be stored in their original, undamaged packaging as supplied by the SILON s.r.o. manufacturer. They must not be exposed to moisture, sunlight or thermal radiation. The maximum compound storage period is usually 6 months from the date of manufacture marked on the product packaging. Once the packaging has been opened, the compound should be processed within several hours, otherwise, the compound may degrade and complicate the smooth production process as a result of moisture absorption.

### Packaging

Compounds are supplied packaged in moisture-resistant 20 kg bags on wooden pallets.

## XLPE thermosetting compounds

### Properties

The XLPE compound product range is a group of polyethylene thermosetting compounds which can be cross-linked using heat or moisture. A catalyst masterbatch is added to the main compound before the extrusion process (SIOPLAS method). These products are suitable for producing cross-linked insulation.

### Processing

Before extrusion, the compound must be mixed with a quantity of catalyst masterbatch as specified in the TDS for the relevant material. Correct processing of silane-grafted compounds with the catalyst masterbatch depends on the speed of extrusion; the faster the material is extruded, the better the results. Any delays, e.g., interruption of production, along with high temperatures, have a negative impact on the quality of processing, which can lead to premature cross-linking. The extruded compound must be cooled in a water bath. We recommend that the cross-linking process take place in hot water or a low-pressure bath. Cross-linking is also possible using air humidity. As in the HFFR-XL group, the dependence of the cross-linking kinetics on the thickness of the extruded layer of insulation or sheathing and on the ambient temperature and humidity at the site of storage of the finished product or semi-finished product must be taken into account in such cases.

We recommend that these compounds be processed on higher-compression extrusion machines.

The individual process and technical parameters are specified in the relevant TDS for XLPE compounds.

### Storage conditions

The compounds must be stored in dry, covered areas at ambient temperatures not exceeding 30°C. The compounds must be stored in their original, undamaged packaging as supplied by the SILON s.r.o. manufacturer. They must not be exposed to moisture, sunlight or thermal radiation. The maximum compound storage period is usually 6 months from the date of manufacture marked on the product packaging. Once the packaging has been opened, the compound should be processed within several hours, otherwise, the compound may degrade and complicate the smooth production process as a result of moisture absorption.

### Packaging

The compounds are supplied in moisture-resistant 20 kg bags on wooden pallets.

SILON was founded as a polyamide filament yarn producer in 1950. At present SILON designs, produces and sells polyolefin-based performance compounds and polyester fibres for applications in construction, the automotive industry, for hygienic applications and for general processing as well. We manufacture over 100 thousand tons of products in our factories every year and we trade in over

30 countries worldwide. SILON has been producing high-grade PE-Xb for the pipe and cable market under the brand name TABOREX for over 30 years. In 2019, the company changed the product line name for the cable segment to TABOCAB®. The SILON TABOCAB® cable compound has special properties which are primarily suitable for making fire safety cables. Our portfolio includes cross-linkable

compounds, thermoplastic and cross-linkable HFFR compounds. Development takes place in close cooperation with the customers. Our technical experts assist in choosing the best product for you and support you in setting up the production process. We firmly believe that we will become the preferred partner for finding solutions for your specific needs and requirements.

INTERNATIONAL CERTIFICATION: IATF 16949 | ISO 9001 | ISO 14001

## Product Catalogue



## SILON is a reliable partner

### CONTACT



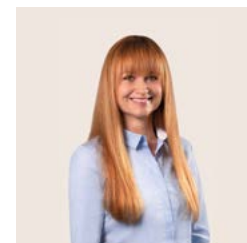
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## TABOCAB® Cable Compounds



**SILON Compounds Make Better Cables**

## Thermoplastic HFFR

Common basic features									Application		Standards							Typical cable product	Segment						
SILON product code	Hardness - Shore D	Density [g/cm <sup>3</sup> ]	Tensile strength [MPa]	Elongation at break [%]	LOI [%]	MFI (150°C/21,6 kg)	halogen-free	flame retardant, low-smoke	Insulation	Sheathing	EN 50363-7 T16, T17	EN 50363-8 TM7	IEC 60502-1 ST8	IEC 60092-359 SHF 1	VDE 0207/24 HM2, HM4	VDE 0250/215 HM5	VDE 0207/24 HJ2	Typical cable product				Segment			
																		Automotive	Renewable	Construction	Industrial				
TABOCAB TPG 002	44	1,52	13	180	37	7,5	•	•	•	•	•	•	•	•	•	•	•	Sheath of cable N2XH, NHXH, J-H(St)H	•	•	•	•			
TABOCAB TPG 003	50	1,51	12,5	270	37	8,5	•	•	•	•	•	•	•	•	•	•	•	Insulation of cable J-H(St)H, LiHH, H05 Z1Z1	•	•	•	•			
TABOCAB TPS 004	45	1,52	12,5	180	42	4,8	•	•	•	•	•	•	•	•	•	•	•	Sheath of CPR cables - power, control and signal	•	•	•	•			
TABOCAB TPS 005	50	1,55	11	160	40	4	•	•	•	•	•	•	•	•	•	•	•	Sheath of UV stabilized cables - power, control and signal	•	•	•	•			

## Cross-linkable compounds

Common basic features										Application		Standards												Typical cable product	Segment						
SILON product code	Recommended Catalyst masterbatch	Hardness - Shore D	Density [g/cm <sup>3</sup> ]	Tensile strength [MPa]	Elongation at break [%]	MFI		halo-gen-free	flame retardant, low-smoke	Insulation	Sheathing	IEC 60502-1	IEC 60092-351	HD 604 2XI1	VDE 0276 2XI1	ISO 6722	LV 112	SAE J 1128	EN 50618	IEC 62930	EN 50363-5	VDE 0276 T.626-4-Fm	HD 626.4F S1	Typical cable product				Segment			
						Value [g/10 min]	Method																	Automotive	Renewable	Construction	Industrial				
TABOCAB SXI 004	CM 005 - CM 008	58	0,926	20	500	2,0	190°C/5 kg	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	Insulation of construction and industrial cables	•	•	•	•		
TABOCAB SXI 005	CM 005 - CM 008	48	0,925	15	450	2,5	190°C/5 kg	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	Insulation of construction and industrial cables	•	•	•	•		
TABOCAB SXI 006	CM 012, CM 013	50	0,925	20	500	3,0	190°C/5 kg	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	insulation (CM 012) and XL HFFR sheathing (CM 13) of car cable	•	•	•	•		
TABOCAB SXI 007	CM 011, CM 012	62	0,946	21	700	0,9	190°C/5 kg	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	Insulation of car cable	•	•	•	•		
TABOCAB SXI 008	CM 009	48	0,914	21,5	700	2,2	190°C/5 kg	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	Insulation of solar cable H1Z2Z2-K	•	•	•	•		
TABOCAB SXI 009	CM 009	48	0,914	21,5	700	2,2	190°C/5 kg	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	Insulation of solar cable H1Z2Z2-K	•	•	•	•		
TABOCAB SXG 010	CM 914	55	0,980	18	250	1,3	190°C/5 kg	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	Insulation and sheathing for aerial bundle cables (ABC) - NFA2X	•	•	•	•		
TABOCAB SXG 011	CM 010	45	1,400	18	250	11	150°C/21,6 kg	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	Sheath of solar cable H1Z2Z2-K	•	•	•	•		

## Masterbatches

Common basic features					Typical features	
SILON product code	Recommended for cross-linkable compounds	Density [g/cm <sup>3</sup> ]	MFI		Catalyst masterbatch suitable for XLPE insulation with optimized processing	
			Value [g/10 min]	Method		
TABOCAB CM 005	SXI 004-5, SXG 010	0,96	1,8	190°C/2,16 kg	Highly thermally stabilized catalyst masterbatch for XLPE insulation	
TABOCAB CM 006	SXI 004, SXI 005	0,95	10,0	190°C/2,16 kg	Highly reactive catalyst masterbatch with medium stabilization for XLPE insulation	
TABOCAB CM 007	SXI 004-5, SXI 008-9	0,92	3,5	190°C/2,16 kg	Standard catalyst masterbatch for XLPE insulation	
TABOCAB CM 008	SXI 004, SXI 005	0,93	3,5	190°C/2,16 kg	Highly stabilized catalyst masterbatch for XLPE insulation with sufficient UV protection for solar cable H1Z2Z2-K (EN 50618)	
TABOCAB CM 009	SXI 008, SXI 009	0,94	35,0	190°C/2,16 kg	Highly stabilized catalyst masterbatch for XLPE HFFR sheathing with sufficient UV protection for solar cable H1Z2Z2-K (EN 50618)	
TABOCAB CM 010	SXG 011	0,96	40,0	150°C/2,16 kg	Catalyst masterbatch for insulation of automotive T3 cables of small dimensions ≤ 2,5 mm <sup>2</sup>	
TABOCAB CM 011	SXI 007	0,93	14,0	190°C/2,16 kg	Catalyst masterbatch for insulation of automotive cables T3 of dimensions > 2,5 mm <sup>2</sup>	
TABOCAB CM 012	SXI 006, SXI 007	0,94	14,0	190°C/2,16 kg	Catalyst masterbatch with HFFR for insulation and sheathing for automotive T2-T3 cables	
TABOCAB CM 013	SXI 006	1,60	1,1	190°C/2,16 kg	Standard catalyst masterbatch with UV protection suitable for insulation and sheathing of ABC cables	
TABOCAB CM 914	SXG 010	1,05	4,4	190°C/2,16 kg	Catalyst masterbatch with UV protection flexibility modifier suitable for insulation and sheathing of ABC cables	
TABOCAB CM 915	TA1155HD, TA1132HD	1,05	4,4	230°C/2,16 kg		

### ADVANTAGES OF XLPE COMPOUNDS

- Easy processing and high-speed production
- Excellent dielectric properties
- Balance of physical and barrier performance
- Lower compound weight

### ADVANTAGES OF HFFR COMPOUNDS

- Excellent fire retardancy performance
- Easy workability
- Produced on high-end Buss technology

