





60 years of Know-how



80% export of our solutions



2,000 customers



Production capacity of 130,000 ton/year



Exports to more than 70 countries



25 production lines

WIRE & CABLE MARKETS



AUTOMOTIVE



POWER



TELECOM



Sofiplus compounds have been specially formulated to meet the requirements of the automotive sector. These compounds are the result of extensive research and expertise from Cabopol in this field, ensuring fast and effective homologation, as well as a total guarantee of quality in continuous use. High temperature applications demand high performance solutions. For automotive insulation above +125°C, crosslinked materials that are Halogen Free or Low Halogen are required. Cabopol solutions provide abrasion resistance, electrical, and thermal aging resistance of up to 3000 hours, in accordance with ISO 6722 LV 112. Crosslinked materials can be achieved using various methods such as: E-beam, Peroxide or Silane.





# PP COMPOUNDS T3 CLASS (-40° TO 125°)

(Code	Density	Hardness	Tensile strength Mpa	Elongation at break %	Specific	Standards	Halogen Free	Halogenated	Thermoplastic	Additional Features
PP0H3-S	1,40	60 ShD	15,0	180	Small sections (0,35 - 2,00 mm2)	ISO 6722 LV 112	<b>/</b>		<b>\</b>	
PP-S	1,26	60 ShD	17,0	450	Small sections (0,35 - 0,75 mm2)	ISO 6722 LV 112		<b>/</b>	<b>/</b>	
РРОН3-М	1,39	53 ShD	15,0	200	Medium sections (2,5 - 7,00 mm2)	ISO 6722 LV 112	<b>/</b>		<b>/</b>	
PP-M	1,25	56 ShD	17,0	450	Medium sections (1,0 - 7,00 mm2)	ISO 6722 LV 112		<b>\</b>	<b>/</b>	
РРОНЗ-Н	1,36	47 ShD	13,0	220	High sections (>8,00 mm2)	ISO 6722 LV 112	<b>/</b>		<b>/</b>	
PP-H	1,24	50 ShD	17,0	450	High sections (>8,00 mm2)	ISO 6722 LV 112		<b>\</b>	<b>/</b>	



# XLPO COMPOUNDS T3 CLASS (-40° TO 125°)

(Code	Density	Hardness	Tensile strength Mpa	Elongation at break %	Specific	Standards	Halogen Free	E- Beam Crosslinked	Peroxide Crosslinked	Additional Features
PEX3-SAE	1,43	46 ShD	10,0	145	Small sections (0,35 - 6,00mm2)	GMW 15626 SAE J1128	<b>\</b>	<b>\</b>		\$ <sup>®</sup> <b>1</b> <sup>+</sup>
PEXS-S	1,40	56 ShD	12	200	Small sections (0,35 - 0,50 mm2)	ISO 6722	<b>/</b>	<b>/</b>		
HZ 01PAF	1,43	47 ShD	17,5	180	Small sections (0,35 - 6,00 mm2)	GMW 15626 SAE J1128	<b>/</b>		<b>/</b>	
PEXS-M	1,40	54 ShD	12	200	Medium sections (0,75 - 6,00 mm2)	ISO 6722	<b>/</b>	<b>/</b>		
HZ 03P125	1,26	25 ShD	9,0	700	High sections (>8,00 mm2)	ISO 6722 SAE J1127	<b>/</b>	<b>\</b>		
HZ 02P125	1,28	40 ShD	13	150	High sections (>8,00 mm2)	ISO 6722 SAE J1127	<u> </u>		<u></u>	



# XLPO COMPOUNDS T4 CLASS (-40° TO 150°)

Code	Density	Hardness	Tensile strength Mpa	Elongation at break %	Specific	Standards	Halogen Free	E- Beam Crosslinked	Peroxide Crosslinked	Silane Crosslinked	Additional Features
PEX4HF-S	1,36	55 ShD	15,0	280	Small sections (<2,00 mm2)	ISO 6722	<b>/</b>				
PEX4-S/1	1,41	56 ShD	12	170	Small sections (0,35 to 0,50 mm2)	ISO 6722	<b>/</b>	<b>/</b>			
HZ 01RUA	1,43	47 ShD	17,5	180	Small sections (0,35 - 6,00 mm2)	GMW 15626 SAE J1128	<b>/</b>		<b>/</b>		
PEX4HF-M	1,37	54 ShD	14,5	210	Medium sections (2,5 - 7,00 mm2)	ISO 6722	<b>/</b>	<b>/</b>			
PEX4-S/2	1,41	51 ShD	12	180	Medium sections (0,75 to 6,00 mm2)	ISO 6722	<b>/</b>				
HZ 03P150	1,30	20 ShD	7,0	400	High sections (>8,00 mm2)	ISO 6722	<b>/</b>	<u></u>			
HZ 02P150	1,31	25 ShD	14,0	350	High sections (>8,00 mm2)	ISO 6722	<b>/</b>		<b>/</b>		
HZ 07CX	1,30	33 ShD	11,0	600	High sections (>8,00 mm2)	ISO 6722	<u> </u>			<b>\</b>	













Our Polyprime compounds for automotive wires are meticulously crafted to meet the rigorous requirements and standards of the automotive industry. These compounds represent the culmination of extensive work and experience by Cabopol in this domain, ensuring swift and effective high levels of reliability and confidence in the utilization of our PVC wires.



# PVC COMPOUNDS T2 CLASS (-40° TO 105°)

(Code	Density	Hardness ShA	Operating temp.°C	Tensile strength N/mm2	Elongation at break %	Specific	Standards	OEM'S	Halogenated	Thermoplastic	Additional Features
DEL/30T	1,34	90	-40 to 105°C	15,0	180	Small sections (0,35 to 0,50 mm2)	ISO 6722 LV 112	PSA IRT2: 0,35 - 7,00mm2 PSA G2: 10, 16mm2 PSA IDT2: 0,35 - 4,00mm2 VW FLRY: 0,22 - 6,00mm2 VW FLY: 4, 6,10mm2	<u> </u>	<u> </u>	1+
DEL/40T	1,34	90	-40 to 105°C	15,0	180	Medium sections (0,60 to 6,00 mm2)	ISO 6722 LV 112	VW FLY: 4, 35,00mm2 VW FLY: 4, 35,00mm2 Fiat F2: 0,35 - 35mm2 Opel(GM): FLRY: 0,35 - 6,00mm2 Opel: FLY 8,00mm2 Daimler Chrysler Mercedes FLRY:	<u> </u>	<u> </u>	<b>1</b> +
DEL/55T	1,34	90	-40 to 105°C	18,0	270	High sections (7,00 to 20,00 mm2)	ISO 6722 LV 112	0,35 - 6,00mm2 Daimler Chrysler Mercedes FLY 4,00 - 6,00 - 10 - 16 - 25 - 35 - 50 - 70 - 95 Land rover FLRYBYW: 1x0,35+0,35 - 2x0,35	<u> </u>	<u> </u>	
DEL/60T	1,35	85	-40 to 105°C	12,5	200	Battery sections (>20,00 mm2)	ISO 6722 LV 112	0,35 - 3x0,35+0,35 BMW FLRY: 0,35 - 6,00mm2 BMW: 10-16-25-35-50-70 Volvo RFLY 2: 0,35 - 10,0mm2 FORD: A2 FLRY: 0,35 - 6mm2	<u> </u>	<u> </u>	







HIGH TEMP.

ABRASION RESISTANT

### PVC COMPOUNDS T3 CLASS (-40° TO 125°)

©) Code	Density	Hardness ShA	Operating temp.°C	Tensile strength N/mm2	Elongation at break %	Specific application	Standards	OEM'S	Halogenated	Thermoplastic	Additional Features
YAZ/10C	1,35	90	-40 to 125°C	18,0	200	Small sections (0,35 to 0,75 mm2)	ISO 6722 LV 112	PSA: IR T3 0,35 - 7,0mm2	<b>/</b>	<b>/</b>	+
YAZ/11C	1,33	90	-40 to 125°C	18,0	200	Medium sections (1,0 to 3,00 mm2)	ISO 6722 LV 112	Daimler Chrysler Mercedes FLRYW: 0 ,35 - 16,0mm2	<b>/</b>	<b>/</b>	
YAZ/93A	1,32	90	-40 to 125°C	14,5	150	High sections (4,0 to 20,00 mm2)	ISO 6722 LV 112	VOLVO R3 FORD: A3:0,50 - 6,00mm2 Renault: R3: 0.35 - 7.00mm2	<b>\</b>	<b>/</b>	+ -
YAZ/94A	1,32	90	-40 to 125°C	17,5	180	Battery sections ( > 20 mm2)	ISO 6722 LV 112	Renault. R3. 0,35 - 7,00mm2	<b>/</b>	<b>/</b>	+ -







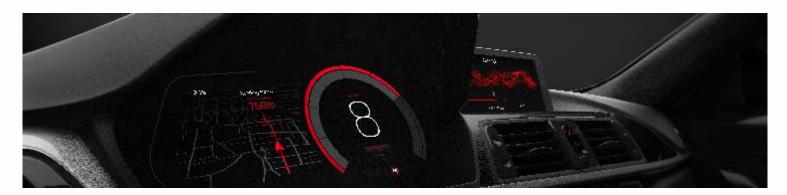
ABRASION RESISTANT



Code	Density	Hardness	Operating temp.°C	Tensile strength N/mm2	Elongation at break %	Specific	Standards	Туре	Halogenated	Thermoplastic	Crosslinkable	Additional Features
JAS/90A	1,33	90 ShA	80°C	21,6	200	All sections	JASO 611	AVS/AVSS	<b>/</b>	<b>/</b>		+
CIV/90A	1,30	90 ShA	100°C	25,0	200	All sections	JASO 611	CIVUS	<b>/</b>	<b>/</b>		1 +
SIM/90A	1,28	60 ShA	100°C	21,6	200	All sections	JASO 611	AVSSH	<b>/</b>	<b>/</b>		1
TRI/92A	1,35	30 ShD	120°C	14,0 Mpa	200	All sections	JASO 611	AVSSXF	<b>/</b>	<b>/</b>	<b>/</b>	1 +







Lacoflex TEC TPE compounds are based on TPE-E and designed for automotive insulation applications up to 150°C, featuring outstanding cold behavior (-40°C) and abrasion resistance. These compounds can be formulated as halogen-free flame retardants or low halogen flame retardants,  $tailored \ to \ meet \ both \ standard \ and \ customer \ requirements. \ The formulation \ of \ Lacoflex \ TEC \ TPU \ compounds \ prioritizes \ excellent \ process ability \ and \ prioritizes \ excellent \ process \ ability \ and \ prioritizes \ excellent \ process \ ability \ and \ prioritizes \ excellent \ process \ ability \ and \ prioritizes \ excellent \ process \ ability \ and \ prioritizes \ excellent \ process \ ability \ and \ prioritizes \ excellent \ process \ ability \ and \ prioritizes \ excellent \ process \ ability \ and \ prioritizes \ excellent \ process \ ability \ and \ prioritizes \ excellent \ process \ ability \ and \ prioritizes \ excellent \ process \ ability \ and \ prioritizes \ excellent \ process \ ability \ and \ prioritizes \ excellent \ process \ ability \ and \ prioritizes \ excellent \ process \ ability \ and \ prioritizes \ excellent \ process \ ability \ and \ prioritizes \ excellent \ process \ ability \ ability$ represents the culmination of extensive research and development efforts. These compounds are suitable for automotive wires with a resistance rating of up to 125°C, offering exceptional resistance to hydrolysis, mechanical properties, UV protection, and flame retardancy.



### TPE-E COMPOUNDS T3 CLASS (-40° TO 125°)

Thermoplastic free Standards Density UL94 Halogen f Code ISO 6722 150°C TPE125HZ-85A 1,22 85 ShA ISO14572 V2 125°C 10 500 240 h LV 112-1 ISO 6722 150°C TPE125HZ-57D 1,30 53 ShD 125°C 14 400 V2 ISO14572 240 h LV 112-1







LOW SMOKE

















FLAME RETARDANT

FLEXIBLE

FLEXIBLE AT

OIL RESISTANT

UV RESISTANT

ABRASION RESISTANT



<b>(</b> ) Code	Density	Hardness	Operating temp.°C	Tensile strength Mpa	Elongation at break %	Ageing conditions	Standards	UL94	Thermoplastic	Halogen free	Additional Features
TPE0H3-S	1,38	55 ShD	125°C	15	150	150°C240 h	ISO 6722 ISO 14572 LV 112-1	V2	<b>/</b>	<u> </u>	6     1     4     8     5     1     4       6     4     8     6     Ex
TPE0H3-M	1,36	50 ShD	125°C	15	300	150°C 240 h	ISO 6722 ISO 14572 LV 112-1	V2	<u> </u>	<u> </u>	6       1
ТРЕ0Н3-Н	1,36	47 ShD	125°C	12	300	150°C 240 h	ISO 6722 ISO 14572 LV 112-1	V2	<u> </u>	<u> </u>	Image: Second secon



















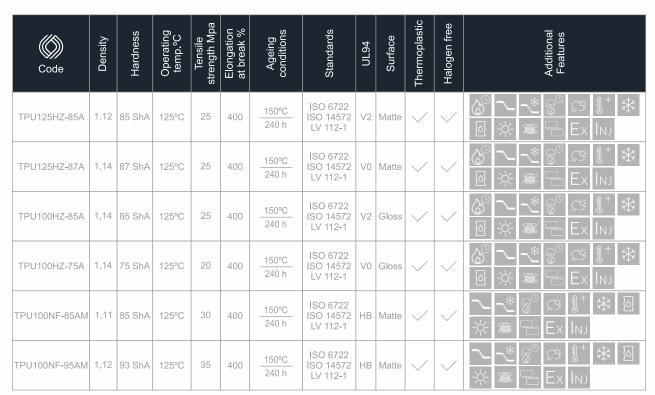








### TPU COMPOUNDS T3 CLASS (-40° TO 125°)































FLAME RETARDANT

FLEXIBLE

FLEXIBLE AT LOW TEMP.

LOW SMOKE

HIGH TEMP. RESISTANT

LOW TEMP. RESISTANT

OIL RESISTANT

UV RESISTANT

ABRASION RESISTANT

EXTRUSION

INJECTION

©) Code	Density	Hardness	Operating temp.°C	Tensile strength Mpa	Elongation at break %	Ageing conditions	Standards	UL94	Thermoplastic	Halogen free	Additional Features
TPE150HZ-85A	1,30	85 ShD	150°C	13	200	175°C 240 h	ISO 6722 ISO14572 LV 112-1	V2	<u></u>	<u></u>	6     1     4       6     4     6     6       6     4     6     6       6     4     6     6       8     6     6       8     6     6       8     6     6       8     6     6       8     6     6       8     6     6       8     6     6       8     7     6       8     7     6       8     7     7       8     8     7       8     8     7       9     8     7       9     8     7       9     8     7       9     8     7       10     8     7       10     8     8       10     8     8       10     8     8       10     8     8       10     8     8       10     8     8       10     8     8       10     8     8       10     8     8       10     8     8       10     8     8       10     8     8 <tr< td=""></tr<>
TPE150HZ-50D	1,30	50 ShA	150°C	14	200	175°C 240 h	ISO 6722 ISO14572 LV 112-1	V2	<u></u>	<u> </u>	Image: Second secon
TPE150LH-55D	1,30	52 ShD	150°C	15	300	175°C 240 h	ISO 6722 ISO14572 LV 112-1	V2	<u></u>		<ul> <li>☼</li> <li>☼</li> <li>☼</li> <li>☼</li> <li>☼</li> <li>☼</li> <li>☼</li> </ul>



























CHARGING EV CABLES

# TPE & TPU COMPOUNDS FOR VEHICLES CHARGING CABLE

©) Code	Density	Hardness	Tensile strength Mpa	Elongation at break %	Operating temp.°C	Class	Hd	Conductivity	Silane Crosslinked	Thermoplastic	Halogen free	Halogenated	Insulation	Sheathing	Additional Features
TPX125NF-80A	1,27	80 ShA	8,5	250	-60 to 125°C	EVI-2, EV07RN-H, EV07BQ-H	>4.3	<10	<u></u>		<u></u>		<u> </u>		© ~ * Ø I * * Ø ☆ 8 Ex
ТРЕ0Н3-Н	1,35	93 ShA	15	300	-40 to 125°C	EVI-1, EV07EE-H, EV07EQ-H	>4.3	<10		<u> </u>	<u></u>		<b>\</b>		<ul> <li>☼</li> <li>☼</li> <li>☼</li> <li>≅</li> <li>Ex</li> </ul>
TPU100HZ-80A	1,16	88 ShA	25	500	-50 to 90°C	EVM-1, EV07BQC4Q-H, EV07EEC4Q-H, U	6,7	7		<u> </u>	<u></u>			<u> </u>	&
TPU100HF-75A	1,14	80 ShA	25	500	-50 to 90°C	EVM-1, EV07BQC4Q-H, EV07EEC4Q-H, U	6.3	8		<b>\</b>	<u></u>			<b>/</b>	& ~ * & £ × * * * & £ × * * * * * * * * * * * * * * * * * *
TPE100NF-80A	1,10	80 ShA	15	300	-50 to 105°C	EVE, EVJE, S90	>4.3	<10		<u> </u>	<u></u>		<u> </u>		\$\frac{1}{2}\$     \$\f
TPE100UL-85A	1,23	85 ShA	13	300	-50 to 105°C	EVE, EVJE, S90	-	-		<u> </u>		<u></u>	<u> </u>	<u> </u>	<ul> <li>S</li></ul>
TPE100HF-90A	1,07	88 ShA	12	400	-50 to 105°C	EVE, EVJE, EV07EEC4E-H, S90	6	9		<u></u>	<u></u>		<u> </u>	<u> </u>	<ul> <li>☼</li> <li>☼</li> <li>≅</li> <li>Ex</li> </ul>

























FLEXIBLE AT LOW TEMP.

LOW SMOKE

OIL RESISTANT

UV RESISTANT

COILABLE

07

# AUTOMOTIVE COAXIAL CABLES

Single-wire asymmetric shielded cables, designed for high-frequency signals communications. By foaming the insulation layer it's possible to reduce the relative permitivity to values of about 1.6 or less, and thus achieve the best impedance, attenuation and transmission losses, which in practice can be translated to a smaller diameter cable design.

#### **Applications**

High Frequency transmission cables like GSM, GPS, DVB, Radio, WCDMA, HSPDA, WLAN, WUSB, WiMAX, mobile broadcast & car to car communication.

#### Benefits & Properties

Recyclability, Solid and foam dielectrics available, standard temperature range -40 up to  $+105^{\circ}$ C to  $+205^{\circ}$ C, easy processing: Good wire diameter control and perfect foaming, can be foamed by chemical or physical (N2, CO2 etc) agents.



# DATAPP-S01

T2 stabilized solid PP skin layer



#### DATAPP-F01

PP with improved extensional viscosity for optimum foaming with chemical agents (Endothermic chemical foaming) and/or physical agents (nitrogen, butane, etc.).



T2 stabilized PE for internal skin, in order to prevent voids between copper and the foamed core



TPE0H3-H TPU125HZ-85A

TPEOH3-H TPU125HZ-85A



DATAPP-S01

T2 stabilized solid PP layer

DATAPE-S01

T2 stabilized solid PE layer

## AUTOMOTIVE ETHERNET CABLES

The increase in software demand, interactive systems feedback, navigation, driver assistance is pushing the bandwidth requirements. In response, automotive manufacturers are adding more and more computer-based systems, applications, and connections. The response to these demands relies on the ethernet cables.

#### Applications

Driver assistance and driver safety systems, cameras (driver assist), video (infotainment) connections, car to x-communications & autonomous driving systems.

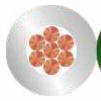
#### Benefits & Properties

Application single and unshielded, twisted pair cable bidirectional, data transfer 100Mbps, impedance Z 100  $\pm$  10  $\Omega$ 



#### Insulation Materials

- PP 01DIE (Thermoplastic)
- PE 01DIE (Crosslinked)
- DATAPP-S01 (using sheath and no flame retardancy required)
- DATAPE-S01 (using sheath and no flame retardancy required)





CAN/ETHERNET

#### **Sheating Materials**

- PPOH3-H (Thermoplastic)
- TPE0H3-H (Thermoplastic)

#### Cable typical values

- Temperature range: -40°C to 125°C
- Characteristics Impedance: 100 ± 10Ω
   Capacitance (at 1kHz): Max 105 pF/m



CAN FD/ETHERNET - Shield FLEXRAY / ETHERNET - Shield

### AUTOMOTIVE DATA TRANSMISSION CABLES

With the increased in the flow of data in the modern vehicles, the data transmission cables need to be able to transmit faster signals without interference, while keeping the flexibility, flame retardancy, mechanical stability and high-frequency characteristics and are therefore suitable for data transmission of signals up to 3 GHz.

**Applications:** Rear view camera system, multimedia, LDVS, bus systems & probe cables.

Benefits & Properties: Flexibility, solid and foam dielectrics available, standard temperature range - 40 up to + 105°C, high mechanical strength, stable impedance.



#### Insulation Materials

- DATAPP-S01 (Solid)
- DATAPE-S01(Solid)
- DATAPP-F01 (Foamed)
- PP 01DIE (Thermoplastic)
- PE 01DIE (Crosslinked)

#### **Sheating Materials**

- TPU125HZ-85A
- TPFOH3-M
- PPOH3-M





LVDS/HSD USB / Bus Systems



# PE/PP/TPE/TPU COMPOUNDS FOR EV

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Code	Material	Density	Hardness	Operating temp °C	Tensile strength Mpa	Elongation at break %	Dielectric constant	Structure	Coaxial	Twisted	Data cables	ISO 6722 ISO 14572 LV 112-1	E- Beam Crosslinked	Thermoplastic	Insulation	Sheathing	Additional Features
DATAPE-S01	PE	0,92	52 ShD	105°C	13	120	2,3	Solid	<u> </u>		<u> </u>	<u> </u>		<u> </u>	<u> </u>		Hr Ex <b>~ ~</b> 8° 5° 1° 1° 1° 1° 1° 1° 1° 1° 1° 1° 1° 1° 1°
PE 01DIE	PE	1,34	52 ShD	125°C	12	200	2,9	Solid		<u></u>	<u></u>	<u> </u>	<u> </u>			<u> </u>	HF Ex 🚱 🔪 🖑 😵
DATAPP-F01	PP	0,90	60 ShD	105°C	20	500	2,3/<2	Solid & Foamed	<u></u>		<u></u>	<u></u>		<u> </u>	<u> </u>		HF Ex <b>\ \ \</b> & \ \ \ & \ \ \ \ \ \ \ \ \ \ \ \
DATAPP-S01	PP	0,90	64 ShD	105°C	20	500	2,3/<2	Solid & Foamed	<u></u>		<u></u>	<u> </u>		<u> </u>	<u> </u>		HF Ex <b>~ ~</b> ₹ 8° \\ \\ \\ \\ \\ \\ \\ \\ \\ \\ \\ \\ \\
PP 01DIE	PP	1,34	60 ShD	125°C	12	150	2,9	Solid		<u></u>	<u></u>	<u> </u>		<u> </u>		<u> </u>	HF Ex 🔗 🔪 💐 🔗
РРОНЗ-Н	PP	1,36	45 ShD	125°C	12	300	4,0	Solid		<u></u>	<u></u>	<u> </u>		<u> </u>	<u> </u>	<u> </u>	HF EX 6 ~ ~ * 5
ТРЕ0Н3-Н	TPE	1,36	45 ShD	125°C	12	300	4,0	Solid	<u></u>	<u></u>	<u></u>	<u></u>		<u> </u>	<u> </u>	<u></u>	HF Ex 🔗 🔪 🔆 🐉
TPU125HZ-85A	TPU	1,12	85 ShA	125°C	30	500	7,0	Solid			<b>/</b>	<b>/</b>		<b>/</b>	<b>/</b>	<u></u>	Hf Ex 🔗 🔪 🤏 🛞





























HALOGEN FREE EXTRUSION

FLAME RETARDANT

FLEXIBLE

FLEXIBLE AT

WEATHER RESISTANT

HIGH TEMP. RESISTANT

LOW TEMP. RESISTANT

OIL RESISTANT

UV RESISTANT

COILABLE