Linoya 领亚®

NEW ENERGY SPECIAL MATERIALS FOCUS ON ENTERPRISE

新能源及特种材料专注企业

广东领亚电子科技有限公司
GUANGDONG LINGYA ELECTRONIC TECHNOLOGY CO., LTD.
广东领亚新材料科技有限公司
GUANGDONG LINGYA NEW MATERIAL TECHNOLOGY CO., LTD.

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COMPANY PROFILE
公司简介

广东领亚新材料科技有限公司/广东领亚电子科技有限公司位于中国制造业中心:广东省东莞市，厂房面积15000平方米,员工150余人，专注生产新能源及特种高分子改性塑胶。公司专注改性材料技术研发，目前拥有25条大型设备生产线(密炼机组)，特种高分子材料年产量超过120,000吨。

主要生产和研发:电力电缆料及硅烷自交联低烟无卤料、TPU/PUR新能源胶料、XL-PE/PO辐照交联聚乙烯料、LSZH低烟无卤聚烯烃料、TPU/CTPE机器人拖链线缆料，可满足IEC/CCC国标、VDE欧标、UL/CSA美标、IS/BS印度标、PSE/JET/JCT日标、SAA澳标等安规要求。

产品广泛应用于工业及家装电线电缆、高层建筑布线、光伏、储能、电动汽车等新能源领域、医疗器械、通讯、家居等多个领域,产品可依据客人要求进行定制，产品符合RoHS 、REACH 、No-phthalate 、HF、PAHs、FDA等环保要求。

Guangdong Lingya New Material Technology Co., Ltd./Guangdong Lingya Electronic Technology Co., Ltd. is located in the center of China's manufacturing industry: Dongguan City, Guangdong Province, with a plant area of 15000 square meters and more than 150 employees. It focuses on the production of new energy and special polymer modified plastics. The company focuses on the research and development of modified materials technology, and currently has 17 large-scale equipment production lines (mixer units), with an annual output of more than 30,000 tons of special polymer materials.

Main production and research and development: TPU/PUR new energy rubber material, XL-PE/PO irradiated cross-linked polyethylene material, LSZH low smoke halogen-free polyolefin material, TPU/CTPE robot drag chain cable material, which can meet the safety requirements of IEC/CCC national standard, VDE European standard, UL/CSA American standard, IS/BS Indian standard, PSE/JET/JCT Japanese standard, SAA Australian standard, etc.

Products are widely used in photovoltaic, energy storage, electric vehicles and other new energy fields, medical equipment, communications, home and other fields, products can be customized according to customer requirements, products comply with RoHS, REACH, No-phthalate, HF, PAHs, FDA and other environmental protection requirements.

硅烷自然交联低烟无卤阻燃聚烯烃料
SILANE-NATURAL - CROSSLINKED LOW SMOKE HALOGEN-FREE FLAME RETARDANT POLYOLEFIN COMPOUND

性能： 该产品符合 RoHS、REACH等相关环保要求，材料性能满足JB/T 10436-2004的标准要求。 产品具有优异的加工性能及较快的交联速度，适用于建筑用布电线。

Performance: The compound meet RoHS, REACH and other related environmental protection requirements. The material performance satisfies the requirements specified in JB/T10436-2004 Standard. The product has excellent processing performance and fast crosslinking speed, which is suitable for wiring cables.

产品规格说明 / PRODUCT SPECIFICATION

序号 No.	检验项目 Test Items		单位 Unit	典型值 Typical Value			
				105°C	105°C	125°C	125°C
1	外观 Appearance		-	符合 Compliance	符合 Compliance	符合 Compliance	符合 Compliance
2	密度 Density		g/cm³	1.52	1.53	1.52	1.53
3	原始拉伸强度 Original Tensile Strength		MPa	14	12.5	14	12.5
4	原始断裂伸长率 Original Elongation at Break		%	210	200	210	200
5	热老化 Thermal Ageing	试验条件 Test Conditions	-	136°C*168h		158°C*168h	
		拉伸强度变化率 Change Rate of Tensile Strength	%	+20	+20	+20	+20
		断裂伸长率变化率 Change Rate of Elongation at Break	%	-15	-15	-15	-15
6	低温冲击 Low-temperature Impact	试验条件 Test Conditions	-	-40°C			
		失效数(≤15/30) Failure (≤15/30)	个 Piece	0	0	0	0
7	氧指数 Oxygen Index		%	33	38	33	38
8	体积电阻率(20°C) Volume Resistivity (20°C)		Ω·m	1*10¹²	1*10¹²	1*10¹²	1*10¹²
9	介电强度(20°C) Dielectric Strength (20°C)		MV/m	25	25	25	25
10	热延伸 Thermal Elongation	试验条件 Test Conditions	-	200°C 0.2MPa 15min			
		负荷下伸长率 Elongation Rate Under the Load	%	30	35	30	35
		冷却后永久变化率 Permanent Change Rate After Cooling	%	0	0	0	0
11	PH 值 PH Value		-	4.9	5.1	4.9	5.1
12	电导率 Conductivity		μs/mm	1	1	1	1
13	烟密度 Smoke Density	有焰 With flame	Ds max	90	80	90	80
		无焰 Without flame	Ds max	165	150	165	150

硅烷自然交联低烟无卤阻燃聚烯烃料
SILANE NATURAL CROSSLINKING LOW SMOKE HALOGEN FREE FLAME RETARDANT POLYOLEFIN

使用方法 / USE METHODS

1. 混料：使用该产品前，将 A 、B 组分混合均匀后加入料斗，如需颜色，电缆厂可使 用聚乙烯基材的色母料(色母需烘干)，物料开包建议 8 小时之内用完， 禁止对物料 进行烘干处理， A 、B 组分在混合过程中严防外部水分带入。
2. 单螺纹螺杆：螺杆最佳压缩比： 1.6±0.2
3. 双色线：线条部分使用 A 料和色母料混合后加入，不加或少加催化剂 B 料。
4. 放线速度：不影响表面和性能的前提下，放线速度越快越好。
5. 交联工艺：成线后可自然交联或水浴(蒸汽)交联。自然交联：室温在15-25°C，一周内可完成交联，温度在25°C以上，三天内可完成交联，若使用水浴或蒸汽交联，为防止线缆粘连，水浴(蒸汽) 温度控制在60-70°C，4小时左右可完成交联。上述交联时间是以绝缘厚度≤1mm为例，若超过该厚度，具体交联时间应根据产品厚度和交联程度进行调整，以满足线缆性能指标要求。做全性能检测，水浴(蒸汽) 温度控制在60°C，8小时以上可完成交联。

1. Mixing: Before the use of this product, evenly mix Component A and Component B, and then add them into the hopper. If the color is required, the cable factory may use the color masterbatch for polyethylene base materials (the color masterbatch needs to be dried). It is recommended to use the material within 8 hours after unpacking. The material cannot be dried. During the mixing process, the external water is strictly prevented from being brought into Component A and Component B.
2. Single threaded screw: Optimal Threaded Rod Compression Ratio: 1.6±0.2
3. Double-color Line: For line portion, add after mixing of Material A and color masterbatch, without or less add Catalyst B.
4. Pay-off Speed: Without affecting surface smoothness and performance, the faster pay-off speed is better.
5. Crosslinking Process: After the formation of wires, natural crosslinking or water bath (steam) crosslinking may be made. NaturalCrosslinking Process: After the formation of wires, natural crosslinking or water bath (steam) crosslinking may be made. Natural Crosslinking: At room temperature (15-25°C), crosslinking may be completed within one week; when the temperature is more than 25°C, crosslinking may be completed within three days. If water bath or steam crosslinking is used, in order to prevent cable adhesion, water bath (steam) temperature is controlled at 60-70°C, and crosslinking may be finished within about 4 hours. With regard to the above-mentioned crosslinking time, the insulation thickness that is less than or equal to 1mm is taken as an example. If this thickness is exceeded, the specific crosslinking time shall be adjusted according to the product thickness and crosslinking degree, to meet the requirements of cable performance indexes. Full performance test,water bath (steam) temperature is controlled at 60°C, and crosslinking could be finished in 8 hours or more.

加工工艺 / PROCESSING TECHNIC

1. 建议控制熔体温度在 160±10°C，挤出温度最终需根据实际情况调整。

1. It is recommended to control the melt temperature at 160±10°C. Finally, the extrusion temperature needs to be adjusted according to the actual situation.

区点 Zone	1区	2区	3区	4区	机头和模具	机头和模具
温度°C Temp.	100±10	125±10	135±10	135±10	140±10	140±10

包装、运输及贮存 / PACKAGING, TRANSPORTATION AND STORAGE

1. 包装：单层真空包装方式。
2. 运输：不应受到日晒雨淋或机械损伤。
3. 贮存：置于清洁、干燥的库房内，保质期： 12 个月。

1. Package: Single vacuum packaging.
2. Transport: The product shall not be exposed to the sun or rain, or suffer mechanical damage.
3. Storage: The product shall be stacked on the backing plate in a clean and dry warehouse. Valid Period: 12 months

125°C PV1-F 低烟无卤辐照交联聚烯烃光伏电缆料

125°C125°C PV1-F LOW SMOKE HALOGEN FREE IRRADIATED CROSSLINKED POLYOLEFIN PHOTOVOLTAIC CABLE MATERIAL

性能： 辐照聚烯烃具有不含卤素、耐热老化性性优、燃烧时发烟量与热释放量小、无毒、阻燃、耐火、安全、环保的特点，外观为半亮面，辐照后可达到125°C的耐热要求，广泛应用于光伏、光缆、电力电缆、储能、机车用线、动力控制线缆。

Performance: Irradiated polyolefin has halogen-free, excellent heat aging, small smoke and heat release during combustion, non-toxic, flame retardant, fire-resistant, safe, environmental protection characteristics, the appearance of semi-bright surface, after irradiation can reach the heat resistance requirements of 125°C, widely used in photovoltaic, optical cable, power cable, energy storage, locomotive wire, power control cable.

产品规格说明 / PRODUCT SPECIFICATION

序号 NO.	项目 Item	单位 Unit	指标要求 Specification		试验方法 Standard
			绝缘 Insulation	护套 Sheath	
1	材料原始性能（辐照前） Raw material properties (before irradiation)				
1.1	比重 Density	g/cm^3	≤1.35	≤1.46	GB/T 1033
1.2	抗张强度 Tensile strength	MPa	≥6.0	≥8.0	GB/T 1040
	断裂伸长率 Elongation at break	%	≥125	≥180	
1.3	20°C下体积电阻率 Volume resistivity at 20°C	Ω·m	$\geq 1\times10^{12}$	$\geq 1\times10^{10}$	GB/T 1410
1.4	介电强度 Dielectric strength	MV/m	≥20	≥20	GB/T 1408
1.5	氧指数 Oxygen index		≥30	≥32	GB/T 1040
1.6	低温冲击脆化温度 Low temperature impact embrittlement temperature	°C	-40	-40	GB/T 5470
	失效数 Number of failures		≤15/30	≤15/30	
2	物理机械性能（辐照后） Physical and mechanical properties (after irradiation)				
2.1	抗张强度 Tensile strength	MPa	≥6.5	≥8.0	GB/T 1040
	断裂伸长率 Elongation at break	%	≥150	≥150	
2.2	空气烘箱热老化 Thermal ageing	150°C×168h			GB/T 2951
	抗张强度变化率 Change rate of tensile strength	%	≤±30	≤±30	
	断裂伸长率变化率 Change rate of elongation at break	%	≤±30	≤±30	
2.3	热延伸 Thermal elongation	200°C×15min, 0.2MPa			GB/T 2951
	负荷下伸长率 Elongation under load	%	≤100	≤100	
	永久变形 Permanent deformation	%	≤25	≤25	
3	耐酸碱性（辐照后） Acid-base resistance (after irradiation)				GB/T 1040
3.1	耐酸试验 Acid resistance test	45g/L草酸溶液，23°C×168h 45g/L oxalic acid dihydrate，23°C×168h			
	抗张强度变化率 Change rate of tensile strength	%	≤±30	≤±30	
	断裂伸长率 Elongation at break	%	≥100	≥100	

125°C PV1-F 低烟无卤辐照交联聚烯烃光伏电缆料

125°C125°C PV1-F LOW SMOKE HALOGEN FREE IRRADIATED CROSSLINKED POLYOLEFIN PHOTOVOLTAIC CABLE MATERIAL

3.2	耐碱试验 Alkali resistance test	40g/L氢氧化钠溶液，23°C×168h 40g/L sodium hydroxide solution，23°C×168h			GB/T 1040
	抗张强度变化率 Change rate of tensile strength	%	≤±30	≤±30	
	断裂伸长率 Elongation at break	%	≥100	≥100	
4	湿热实验（辐照后） Wet heat test (after irradiation)	90°C×1000h，相对湿度85% 90°C×1000h，relative humidity 85%			GB/T 1040
	抗张强度变化率 Change rate of tensile strength	%	≤±30	≤±30	
	断裂伸长率 Elongation at break	%	≥100	≥100	
5	成品电缆高温压力试验（辐照后） High temperature pressure test of cable (after irradiation)	140°C×4h，系数k=0.6 140°C×4h，coefficient k=0.6			GB/T 2951
	压痕深度 Depth of indentation	%	≤50	≤50	
6	低温试验（-40°C）（辐照后） Low temperature test (-40°C) (after irradiation)				GB/T 2951
6.1	低温冲击 Low-temperature impact		无裂纹 No crack	无裂纹 No crack	
6.2	低温卷绕 （电缆直径＜12.5mm时进行） Winding at low temperature (When the cable diameter is less than 12.5mm)		无裂纹 No crack	无裂纹 No crack	
6.3	低温拉伸 Low temperature tension		无裂纹 No crack	无裂纹 No crack	
7	耐臭氧（辐照后）-40°C×72h/相对湿度55%/0.015% ~ 0.025% Ozone resistance (after irradiation) -40°C×72h/relative humidity 55%/0.015% ~ 0.025%		不开裂 No crack	不开裂 No crack	EN 50396
8	成品电缆护套热收缩试验（辐照后） Thermal shrinkage test for cable sheaths (after irradiation)	120°C×1h，电缆长度300mm 120°C×1h，cable length 300mm			GB/T 2951
	回缩率 Retraction rate	%		2	
9	燃烧试验（辐照后） Combustion test (after irradiation)				
9.1	单根垂直燃烧试验 Single vertical combustion test				GB/T 18380
	上支架下缘与炭化点之间的距离 The distance between the lower edge of the upper bracket and the carbonization point	mm	≥50	≥50	
	燃烧向下延伸炭化点与上夹具下缘间的距离 The combustion extends down the distance between the carbonization point and the lower edge of the upper fixture	mm	≤540	≤540	
9.2	卤素测定 Determination of halogen				
9.2.1	燃烧气体PH值 PH value of combustion gas		4.3	4.3	GB/T 17650
9.2.2	电导率 Conductivity	μS/mm	10.0	10.0	
9.2.3	HCl/HBr含量 Content of HCl/HBr	%	0.5	0.5	EN60627
	HF含量 Content of HF	%	0.1	0.1	EN60684
9.3	烟密度：无焰 Dmw		≤200	≤150	GB/T 17651
	烟密度：有焰 Dmy		≤100	≤100	
9.4	毒性指数（ITC） Poison exponent		5	5	EN50305
10	电缆表面析出物试验（90°C×48h） Cable surface precipitation test（90°C×48h）		无析出物 No precipitate	无析出物 No precipitate	
11	烟密度（成品电缆透光率） Smoke density(Transmittance of finished cable)	%	-	>60	EN50618

125°C PV1-F 低烟无卤辐照交联聚烯烃光伏电缆料

125°C125°C PV1-F LOW SMOKE HALOGEN FREE IRRADIATED CROSSLINKED POLYOLEFIN PHOTOVOLTAIC CABLE MATERIAL

加工工艺 / PROCESSING TECHNIC

1. 推荐采用压缩比1.1~1.2，螺杆L/D≥25的挤出机加工。
2. 推荐挤出机各区点设定温度如下：根据设备及挤出物状态适当调整（±10°C）,通常是护套比绝缘要高10~15°C。

1. Extrusion machining with compression ratio of 1.1~1.2 and screw L/D≥25 is recommended.
2. It is recommended to set the temperature of each area of the extruder as follows: adjust (±10°C) according to the state of the equipment and extruder, usually the sheath is 10~15°C higher than the insulation.

区点Zone	1区 Z1	2区 Z2	3区 Z3	4区 Z4	5区 Z5	机头 Head	模头 Die
绝缘押出温度°C Insulation extruded temperature	115~125	125~135	135~145	145~155	155~160	150~155	145~150
护套押出温度°C Sheath extruded temperature	125~135	135~145	145~155	155~165	165~175	160~170	155~160

1. 注：如果材料在仓库存储二个月以上，请将材料在90°C下干燥后再使用。
2. 辐照剂量：建议辐照剂量为13~15兆拉德，可根据电缆结构和交联后热延伸指标、拉伸强度、断裂伸长率等进行适当调整。

1. Note: If the material is stored in the warehouse for more than two months, please dry the material at 90°C before use.
2. Irradiation dose: The recommended irradiation dose is 13 to 15 megabrads, which can be appropriately adjusted according to the cable structure and thermal extension index after crosslinking, tensile strength, elongation at break, etc.

包装、运输及贮存 / PACKAGING, TRANSPORTATION AND STORAGE

1. 包装：每袋25kg，铝塑复合真空防潮内袋，牛皮纸复合袋外包装；
2. 供需双方可协商其他包装要求；
3. 运输和贮存：电缆料在运输过程中不应受日晒雨淋。应贮存在清洁、阴凉、干燥、通风的仓库内。

1. Packing: 25kg per bag, aluminum-plastic composite vacuum moisture-proof inner bag, kraft paper composite bag outer packing;
2. The parties may negotiate other packing requirements;
3. Transportation and storage: cable materials should not be exposed to the sun and rain during transportation. It should be stored in a clean, cool, dry and ventilated warehouse.

备注 / NOTE

1. 材料应符合ROHS和REACH环保要求。
2. 成品电缆应符合2 PfG 1169/08.2007中绝缘料和护套料的性能要求。

1. The material should meet the environmental requirements of ROHS and REACH
2. The finished cable shall comply with the performance requirements of insulation materials and sheathing materials in 2 PfG 1169/08.2007.

自然交联低烟无卤聚乙烯

NATURAL CROSSLINKED LOW SMOKE HALOGEN-FREE FLAME RETARDANT POLYOLEFIN COMPOUND

使用方法 / USE METHODS

性能：该产品符合RoHS、REACH等相关环保要求。材料性能满足JB/T 10436-2004的标准要求。产品具有优异的加工性能及较快的自然交联速度，适用于各种建筑用布电线。

Performance: The compound meet RoHS , REACH and other related environmental protection requirements. The material performance satisfies the requirements specified in JB/T 10436-2004 Standard. The product has excellent processing performance and fast crosslinking speed, which is suitable for wiring cables.

产品规格说明 / PRODUCT SPECIFICATION

序号 NO.	项目 Item		单位 Unit	典型值 Typical Value	
				105°C-24	参考标准 Reference standard
1	外观 Appearance		-	符合 Compliance	企标 Enterprise standard
2	密度 Density		g/cm³	0.92	ISO1183-2004
3	原始拉伸强度 Original Tensile Strength		MPa	22.5	ISO 527:1993
4	原始断裂伸长率 Original Elongation at Break		%	500	ISO 527:1993
5	热老化 Thermal Ageing	试验条件 Test Conditions	-	136°C*168h	IEC60811-1-2:1985
		拉伸强度变化率 Change Rate of Tensile Strength	%	≤+20	GB/T2951.12-1997
		断裂伸长率变化率 Change Rate of Elongation at Break	%	≤-20	GB/T2951.12-1997
6	低温冲击 Low-temperature Impact	试验条件 Test Conditions	-	-75°C	
		失效数(≤15/30) Failure (≤15/30)	个 Piece	≤15	GB/T 5470-2008
7	体积电阻率(20°C) Volume Resistivity (20°C)		Ω·m	1*1015	GB/T1410-2006
8	介电强度(20°C) Dielectric Strength (20°C)		MV/m	40	GB/T 1408.1-1999
9	热延伸 Thermal Elongation	试验条件 Test Conditions	-	200°C 0.2MPa 15min	
		负荷下伸长率 Elongation Rate Under the Load	%	50	IEC60811-2-1:2001
		冷却后永久变化率 Permanent Change Rate After Cooling	%	0	IEC60811-2-1:2001

使用方法 / USE METHODS

1. 自然交联料加色母后即可使用。
2. 单螺纹螺杆：螺杆最佳压缩比: 1.5 : 1

1. Natural Crosslinked compound can be used after adding color masterbatch
2. Single threaded screw: Optimal Threaded Rod Compression Ratio: 1.5 : 1

自然交联低烟无卤聚乙烯
NATURAL CROSSLINKED LOW SMOKE HALOGEN-FREE FLAME RETARDANT POLYOLEFIN COMPOUND

加工工艺 / PROCESSING TECHNIC

1. 建议控制熔体温度在 100±10°C，挤出温度最终需根据实际情况调整。

1. It is recommended to control the melt temperature at 150±10°C. Finally, the extrusion temperature needs to be adjusted according to the actual situation.

区点 Zone	1区 Z1	2区 Z2	3区 Z3	4区 Z4	机头 Head	模头 Die
温度°C Temp.	80±10	100±10	110±10	115±10	110±10	100±10

2. 放线速度：不影响表面和性能的前提下，放线速度越快越好。
3. 交联工艺：成线后可自然交联或水浴(蒸汽)交联。自然交联：室温在 15-25 °C，一周内可完成交联，温度在25 °C以上，三天内可完成交联，若使用水浴或蒸汽交联，为防止线缆粘连，水浴（蒸汽）温度控制在 60-70 °C，4小时左右可完成交联。上述交联时间是以绝缘厚度≤1 mm为例，若超过该厚度，具体交联时间应根据产品厚度和交联程度进行调整，以满足线缆性能指标要求。做全性能检测，水浴（蒸汽）温度控制在 60 °C，8小时以上可完成交联。

2. Pay-off Speed: Without affecting surface smoothness and performance, the faster pay-off speed is better.
3. Crosslinking Process: After the formation of wires, natural crosslinking or water bath (steam) crosslinking may be made. Natural Crosslinking: At room temperature (15-25°C), crosslinking may be completed within one week; when the temperature is more than 25°C, crosslinking may be completed within three days. If water bath or steam crosslinking is used, in order to prevent cable adhesion, water bath (steam) temperature is controlled at 60-70°C, and crosslinking may be finished within about 4 hours. With regard to the above-mentioned crosslinking time, the insulation thickness that is less than or equal to 1mm is taken as an example. If this thickness is exceeded, the specific crosslinking time shall be adjusted according to the product thickness and crosslinking degree, to meet the requirements of cable performance indexes. Full performance test,water bath (steam) temperature is controlled at 60°C, and crosslinking could be finished in 8 hours or more.

包装、运输及贮存 / PACKAGING, TRANSPORTATION AND STORAGE

包装： 单层真空包装方式。
运输： 不应受到日晒雨淋或机械损伤。
贮存： 应贮存在清洁、阴凉、干燥、通风的仓库内。保质期：12 个月。

Package: Single vacuum packaging.
Transport: The product shall not be exposed to the sun or rain, or suffer mechanical damage.
Storage: It should be stored in a clean, cool, dry and ventilated warehouse. Valid Period: 12 months.

LSZH低烟无卤阻燃聚烯烃线缆料(国标70°C、WJ-70)
LOW SMOKE HALOGEN-FREE FLAME RETARDANT POLYOLEFIN CABLE MATERIAL (GB 70°C, WJ-70)

加工工艺 / PROCESSING TECHNIC

产品特点性能： 聚烯烃具有不含卤素、燃烧时发烟量与热释放量小、无毒、阻燃、耐火、安全、环保的特点，外观为半亮面，无需辐照便可达到70°C~105°C的耐热要求，广泛应用于家装布线、光缆、网络线、动力与控制线缆。

Product features: Polyolefin has halogen-free, small smoke and heat release during combustion, non-toxic, flame retardant, fire-resistant, safe, environmental protection characteristics, the appearance of semi-bright surface, without irradiation can reach the heat resistance requirements of 70°C~105°C, widely used in home wiring, optical cables, network cables, power and control cables.

产品规格说明 / PRODUCT SPECIFICATION

项目名称Item	指标 Index	试验方法 Standard
密度 Density	1.45~1.50 g/cm³	GB/T1.33.1-2008
热冲击（130°C×1h）Thermal shock	无破裂 No cracking	GB/T 2423 IEC60068
硬度 Hardness	90~95A	ISO 868
老化前拉伸强度 Tensile strength before aging	≥10 Mpa	GB/T1040.3-2006
老化前断裂伸长率 Elongation at break before aging	≥160%	GB/T1040.3-2006
老化后拉伸强度变化率（100°C×168h） Change rate of tensile strength after aging	±20%	GB/T2951.12-2008
老化后断裂伸长率变化率（100°C×168h） Change rate of elongation at break after aging	±20%	GB/T2951.12-2008
低温冲击脆化（-25°C×4h） Low temperature impact embrittlement	失效数＜15条(共30条) Number of failures < 15 (30 in total)	GB/T5470-2008
阻燃等级(氧指数) Flame retardant rating (oxygen index)	≥32	GB/T 2406-2008
热释放总量THR MJ Total heat release	≤30	GB 31247
产烟总量TSP(M2) Total smoke production	<400	GB 31247
透光率 Luminousness	>60%	GB 31247
电导率(Us/mm) Conductivity	≤10	GB/T17650.2-1998
浸热水试验(70°C×168h）Hot water immersion test	断裂伸长变化率±35%,拉伸强度变化率±30% The change rate of fracture elongation is ±35%, and the change rate of tensile strength is ±30%	GB/T1040.3-2006
PH值 Pondus hydrogenii value	≥4.3	IEC 60247
抗撕裂强度(N/mm) Tear resistance	≥6.5	JB/T10696.7-2007
介电强度 Dielectric strength	≥20 MV/m	IEC 60243/GB1408
体积电阻率 (20°C) Volume resistivity	≥ $1\times10^{12}\Omega$. cm	IEC 60167/GB1410

加工温度 / PROCESSING TEMPERATURE

位置 Zone	1区 Z1	2区 Z2	3区 Z3	4区 Z4	机头模头 Head Die
温度°C Temp.	130~140	140~145	140~145	150~155	140~150

1. 如为获得更为理想的效果，可以提高加工温度,最高温度不宜超过180°C。
2. 最适宜的挤出温度还最终取决于用户挤出机的压缩比和长径比及螺杆结构等因素。

1. In order to obtain more ideal results, the processing temperature can be increased, and the maximum temperature should not exceed 180°C.
2. The most suitable extrusion temperature also depends on factors such as the compression ratio and length-diameter ratio of the user's extruder and the screw structure.

包装、运输及贮存 / PACKAGE、TRANSPORT AND STORAGE

1. 应贮存在清洁、阴凉、干燥、通风的仓库内。如防潮失效，使用前须干燥，干燥温度80°C，时间至少1小时。

1. It should be stored in a clean, cool, dry and ventilated warehouse. If the moisture resistance fails, it must be dried before use, and the drying temperature is 80°C for at least 1 hour.

LSZH低烟无卤阻燃聚烯烃线缆料(国标90°C绝缘)
LOW SMOKE HALOGEN-FREE FLAME RETARDANT POLYOLEFIN CABLE COMPOUND (GB 90°C)

加工工艺 / PROCESSING TECHNIC

产品特点性能： 聚烯烃具有不含卤素、燃烧时发烟量与热释放量小、无毒、阻燃、耐火、安全、环保的特点，外观为半亮面，无需辐照便可达到70°C~105°C的耐热要求，广泛应用于家装布线、光缆、网络线、动力与控制线缆.

Product features: Polyolefin has halogen-free, small smoke and heat release during combustion, non-toxic, flame retardant, fire-resistant, safe, environmental protection characteristics, the appearance of semi-bright surface, without irradiation can reach the heat resistance requirements of 70°C~105°C, widely used in home wiring, optical cables, network cables, power and control cables.

产品规格说明 / PRODUCT SPECIFICATION

项目名称 Item	指标 Index	试验方法 Standard
密度 Density	1.45~1.48 g/cm³	GB/T1033-2008
热冲击（130°C×1h）Thermal shock	无破裂 No cracking	GB/T32129-2015
硬度 Hardness	90~95A	ISO 868
老化前拉伸强度 Tensile strength before aging	≥10 Mpa	GB/T1040.3-2006
老化前断裂伸长率 Elongation at break before aging	≥160%	GB/T1040.3-2006
老化后拉伸强度变化率（110°C×240h） Change rate of tensile strength after aging	±25%	GB/T1040.3-2006
老化后断裂伸长率变化率（110°C×240h） Change rate of elongation at break after aging	±25%	GB/T1040.3-2006
低温冲击脆化（-25°C×4h） Low temperature impact embrittlement	失效数≤15条(共30条) Number of failures < 15 (30 in total)	GB/T5470-2008
阻燃等级(氧指数) Flame retardant rating (oxygen index)	≥30	GB/T 2406-2008
热释放总量THR MJ Total heat release	≤30	GB 31247
产烟总量TSP(M2) Total smoke production	<400	GB 31247
透光率 Luminousness	>60%	GB 31247
电导率(Us/mm) Conductivity	≤10	GB/T17650.2-1998
产烟总量TSP(M2) Total smoke production	断裂伸长变化率±35%,拉伸强度变化率±30% The change rate of fracture elongation is ±35%, and thechange rate of tensile strength is ±30%	GB/T1040.3-2006
透光率 Luminousness	≥4.3	IEC 60247
抗撕裂强度(N/mm) Tear resistance	≥8~10 (抗撕裂料大于10N) (Tear resistant material greater than 10N)	JB/T10696.7-2007
介电强度 Dielectric strength	≥20 MV/m	IEC 60243/GB1408
体积电阻率 (20°C) Volume resistivity	≥ 1×10¹² Ω·cm	IEC 60167/GB1410

LSZH低烟无卤阻燃聚烯烃线缆料(国标90°C绝缘)
LOW SMOKE HALOGEN-FREE FLAME RETARDANT POLYOLEFIN CABLE COMPOUND (GB 90°C)

加工温度 / PROCESSING TEMPERATURE

位置 Zone	1区 Z1	2区 Z2	3区 Z3	4区 Z4	机头模头 Head Die
温度°C Temp.	130~140	140~145	140~145	150~155	140~150

1. 如为获得更为理想的效果，可以提高加工温度,最高温度不宜超过180°C。
2. 最适宜的挤出温度还最终取决于用户挤出机的压缩比和长径比及螺杆结构等因素。

1. In order to obtain more ideal results, the processing temperature can be increased, and the maximum temperature should not exceed 180°C.
2. The most suitable extrusion temperature also depends on factors such as the compression ratio and length-diameter ratio of the user's extruder and the screw structure.

包装、运输及贮存 / PACKAGE、TRANSPORT AND STORAGE

1. 应贮存在清洁、阴凉、干燥、通风的仓库内。如防潮失效，使用前须干燥，干燥温度80°C，时间至少1小时。

1. It should be stored in a clean, cool, dry and ventilated warehouse. If the moisture resistance fails, it must be dried before use, and the drying temperature is 80°C for at least 1 hour.

LSZH低烟无卤阻燃聚烯烃线缆料(国标90°C护套)

LOW SMOKE HALOGEN-FREE FLAME RETARDANT POLYOLEFIN CABLE COMPOUND (GB 90°C, CLASS WH-90 B1)

加工工艺 / PROCESSING TECHNIC

产品特点性能： 聚烯烃具有不含卤素、燃烧时发烟量与热释放量小、无毒、阻燃、,耐火、安全、环保的特点，外观为半亮面，无需辐照便可达到70°C~105°C的耐热要求，广泛应用于家装布线、光缆、网络线、动力与控制线缆。

Product features: Polyolefin has halogen-free, small smoke and heat release during combustion, non-toxic, flame retardant, fire-resistant, safe, environmental protection characteristics, the appearance of semi-bright surface, without irradiation can reach the heat resistance requirements of 70°C~105°C, widely used in home wiring, optical cables, network cables, power and control cables.

产品规格说明 / PRODUCT SPECIFICATION

项目名称 Item	指标 Index	试验方法 Standard
密度 Density	1.45~1.50 g/cm³	GB/T1033-2008
热冲击（130°C×1h）Thermal shock	无破裂 No cracking	GB/T32129-2015
硬度 Hardness	90~95A	ISO 868
老化前拉伸强度 Tensile strength before aging	≥10 Mpa	GB/T1040.3-2006
老化前断裂伸长率 Elongation at break before aging	≥160%	GB/T1040.3-2006
老化后拉伸强度变化率（110°C×240h） Change rate of tensile strength after aging	±25%	GB/T1040.3-2006
老化后断裂伸长率变化率（110°C×240h） Change rate of elongation at break after aging	±25%	GB/T1040.3-2006
低温冲击脆化（-25°C×4h） Low temperature impact embrittlement	失效数≤15条(共30条) Number of failures < 15 (30 in total)	GB/T5470-2008
阻燃等级(氧指数) Flame retardant rating (oxygen index)	≥34	GB/T 2406-2008
热释放总量THR MJ Total heat release	≤30	GB 31247
产烟总量TSP(M2) Total smoke production	<400	GB 31247
透光率 Luminousness	>60%	GB 31247
电导率(Us/mm) Conductivity	≤10	GB/T17650.2-1998
产烟总量TSP(M2) Total smoke production	断裂伸长变化率±35%,拉伸强度变化率±30% The change rate of fracture elongation is ±35%, and thechange rate of tensile strength is ±30%	GB/T1040.3-2006
透光率 Luminousness	≥4.3	IEC 60247
抗撕裂强度(N/mm) Tear resistance	≥8~10 (抗撕裂料大于10N) (Tear resistant material greater than 10N)	JB/T10696.7-2007
介电强度 Dielectric strength	≥20 MV/m	IEC 60243/GB1408
体积电阻率 (20°C) Volume resistivity	≥ 1×10¹² Ω·cm	IEC 60167/GB1410

LSZH低烟无卤阻燃聚烯烃线缆料(国标90°C护套)

LOW SMOKE HALOGEN-FREE FLAME RETARDANT POLYOLEFIN CABLE COMPOUND (GB 90°C, CLASS WH-90 B1)

加工温度 / PROCESSING TEMPERATURE

位置 Zone	1区 Z1	2区 Z2	3区 Z3	4区 Z4	机头模头 Head Die
温度°C Temp.	130~140	140~145	140~145	150~155	140~150

1. 如为获得更为理想的效果，可以提高加工温度,最高温度不宜超过180°C。
2. 最适宜的挤出温度还最终取决于用户挤出机的压缩比和长径比及螺杆结构等因素。

1. In order to obtain more ideal results, the processing temperature can be increased, and the maximum temperature should not exceed 180°C.
2. The most suitable extrusion temperature also depends on factors such as the compression ratio and length-diameter ratio of the user's extruder and the screw structure.

包装、运输及贮存 / PACKAGE、TRANSPORT AND STORAGE

1. 应贮存在清洁、阴凉、干燥、通风的仓库内。如防潮失效，使用前须干燥，干燥温度80°C，时间至少1小时。

1. It should be stored in a clean, cool, dry and ventilated warehouse. If the moisture resistance fails, it must be dried before use, and the drying temperature is 80°C for at least 1 hour.

LSZH低烟无卤阻燃聚烯烃线缆料(国标105°C绝缘)
LOW SMOKE HALOGEN-FREE FLAME RETARDANT POLYOLEFIN CABLE COMPOUND (GB 105°C)

加工工艺 / PROCESSING TECHNIC

产品特点性能： 聚烯烃具有不含卤素、燃烧时发烟量与热释放量小、无毒、阻燃、耐火、安全、环保的特点，外观为半亮面，无需辐照便可达到70°C~105°C的耐热要求，广泛应用于家装布线、光缆、网络线、动力与控制线缆。

Product features: Polyolefin has halogen-free, small smoke and heat release during combustion, non-toxic, flame retardant, fire-resistant, safe, environmental protection characteristics, the appearance of semi-bright surface, without irradiation can reach the heat resistance requirements of 70°C~105°C, widely used in home wiring, optical cables, network cables, power and control cables.

产品规格说明 / PRODUCT SPECIFICATION

项目名称 Item	指标 Index	试验方法 Standard
密度 Density	1.45~1.48 g/cm³	GB/T1033-2008
热冲击（130°C×1h）Thermal shock	无破裂 No cracking	GB/T32129-2015
硬度 Hardness	90~92A	ISO 868
老化前拉伸强度 Tensile strength before aging	≥10 Mpa	GB/T1040.3-2006
老化前断裂伸长率 Elongation at break before aging	≥160%	GB/T1040.3-2006
老化后拉伸强度变化率（110°C×240h） Change rate of tensile strength after aging	±25%	GB/T1040.3-2006
老化后断裂伸长率变化率（110°C×240h） Change rate of elongation at break after aging	±25%	GB/T1040.3-2006
低温冲击脆化（-25°C×4h） Low temperature impact embrittlement	失效数≤15条(共30条) Number of failures < 15 (30 in total)	GB/T5470-2008
阻燃等级(氧指数) Flame retardant rating (oxygen index)	≥30	GB/T 2406-2008
热释放总量THR MJ Total heat release	≤30	GB 31247
产烟总量TSP(M2) Total smoke production	<400	GB 31247
透光率 Luminousness	>60%	GB 31247
电导率(Us/mm) Conductivity	≤10	GB/T17650.2-1998
产烟总量TSP(M2) Total smoke production	断裂伸长变化率±35%,拉伸强度变化率±30% The change rate of fracture elongation is ±35%, and the change rate of tensile strength is ±30%	GB/T1040.3-2006
透光率 Luminousness	≥4.3	IEC 60247
抗撕裂强度(N/mm) Tear resistance	≥8~10 (抗撕裂料大于10N) (Tear resistant material greater than 10N)	JB/T10696.7-2007
介电强度 Dielectric strength	≥20 MV/m	IEC 60243/GB1408
体积电阻率 (20°C) Volume resistivity	≥ 1×10¹² Ω·cm	IEC 60167/GB1410

LSZH低烟无卤阻燃聚烯烃线缆料(国标105°C绝缘)
LOW SMOKE HALOGEN-FREE FLAME RETARDANT POLYOLEFIN CABLE COMPOUND (GB 105°C)

加工温度 / PROCESSING TEMPERATURE

位置 Zone	1区 Z1	2区 Z2	3区 Z3	4区 Z4	机头模头 Head Die
温度°C Temp.	130~140	140~145	140~145	150~155	140~150

1. 如为获得更为理想的效果，可以提高加工温度,最高温度不宜超过180°C。
2. 最适宜的挤出温度还最终取决于用户挤出机的压缩比和长径比及螺杆结构等因素。

1. In order to obtain more ideal results, the processing temperature can be increased, and the maximum temperature should not exceed 180°C.
2. The most suitable extrusion temperature also depends on factors such as the compression ratio and length-diameter ratio of the user's extruder and the screw structure.

包装、运输及贮存 / PACKAGE、TRANSPORT AND STORAGE

1. 应贮存在清洁、阴凉、干燥、通风的仓库内。如防潮失效，使用前须干燥，干燥温度80°C，时间至少1小时。

1. It should be stored in a clean, cool, dry and ventilated warehouse. If the moisture resistance fails, it must be dried before use, and the drying temperature is 80°C for at least 1 hour.

LSZH低烟无卤阻燃聚烯烃线缆料(国标90°C、WH-90 B1级)

LOW SMOKE HALOGEN-FREE FLAME RETARDANT POLYOLEFIN CABLE MATERIAL (GB 90°C, CLASS WH-90 B1)

加工工艺 / PROCESSING TECHNIC

产品特点性能： 聚烯烃具有不含卤素、燃烧时发烟量与热释放量小、无毒、阻燃、耐火、安全、环保的特点，外观为半亮面，无需辐照便可达到70°C~105°C的耐热要求，广泛应用于家装布线、光缆、网络线、动力与控制线缆。

Product features: Polyolefin has halogen-free, small smoke and heat release during combustion, non-toxic, flame retardant, fire-resistant, safe, environmental protection characteristics, the appearance of semi-bright surface, without irradiation can reach the heat resistance requirements of 70°C~105°C, widely used in home wiring, optical cables, network cables, power and control cables.

产品规格说明 / PRODUCT SPECIFICATION

项目名称 Item	指标 Index	试验方法 Standard
密度 Density	1.60~1.70 g/cm³	GB/T1033-2008
热冲击（130°C×1h） Thermal shock	无破裂 No cracking	GB/T32129-2015
硬度 Hardness	93~96A	ISO 868
老化前拉伸强度 Tensile strength before aging	≥10 Mpa	GB/T1040.3-2006
老化前断裂伸长率 Elongation at break before aging	≥160%	GB/T1040.3-2006
老化后拉伸强度变化率（110°C×240h） Change rate of tensile strength after aging	±25%	GB/T1040.3-2006
老化后断裂伸长率变化率（110°C×240h） Change rate of elongation at break after aging	±25%	GB/T1040.3-2006
低温冲击脆化（-25°C×4h） Low temperature impact embrittlement	失效数≤15条(共30条) Number of failures < 15 (30 in total)	GB/T5470-2008
阻燃等级(氧指数) Flame retardant rating (oxygen index)	≥40	GB/T 2406-2008
热释放总量THR MJ Total heat release	≤15	GB 31247-2014
产烟总量TSP(M2) Total smoke production	≤50	GB 31247-2014
透光率 Luminousness	≥60%	GB 31247-2014
电导率(Us/mm) Conductivity	≤10	GB/T17650.2-1998
碳化长度(mm) Carbonization length	≤425	GB 31247-2014
浸热水试验(70°C×168h） Hot water immersion test	断裂伸长变化率±35%,拉伸强度变化率±30% The change rate of fracture elongation is ±35%, and the change rate of tensile strength is ±30%	GB/T1040.3-2006
PH值 Pondus hydrogenii value	≥4.3	IEC 60247
抗撕裂强度(N/mm) Tear resistance	≥8	JB/T10696.7-2007
介电强度 Dielectric strength	≥20 MV/m	IEC 60243/GB1408
体积电阻率 (20°C) Volume resistivity	≥ 1×10¹² Ω·cm	IEC 60167/GB1410

LSZH低烟无卤阻燃聚烯烃线缆料(国标90°C、WH-90 B1级)

LOW SMOKE HALOGEN-FREE FLAME RETARDANT POLYOLEFIN CABLE MATERIAL (GB 90°C, CLASS WH-90 B1)

加工温度 / PROCESSING TEMPERATURE

位置 Zone	1区 Z1	2区 Z2	3区 Z3	4区 Z4	机头模头 Head Die
温度°C Temp.	130~140	145~155	155~165	160~165	150~155

1. 如为获得更为理想的效果，可以提高加工温度,最高温度不宜超过180°C。
2. 最适宜的挤出温度还最终取决于用户挤出机的压缩比和长径比及螺杆结构等因素。

1. In order to obtain more ideal results, the processing temperature can be increased, and the maximum temperature should not exceed 180°C.
2. The most suitable extrusion temperature also depends on factors such as the compression ratio and length-diameter ratio of the user's extruder and the screw structure.

包装、运输及贮存 / PACKAGE、TRANSPORT AND STORAGE

1. 该规格为高阻燃,易吸潮,应贮存在清洁、阴凉、干燥、通风的仓库内。如防潮失效，使用前须干燥，干燥温度80°C，时间至少1小时。

1. The specification is high flame retardant, easy moisture absorption, should be stored in a clean, cool, dry, ventilated warehouse. If the moisture resistance fails, it must be dried before use, and the drying temperature is 80°C for at least 1 hour.

LSZH低烟无卤辐照交联阻燃聚烯烃线缆料(125°C、150°C)

LOW SMOKE HALOGEN-FREE IRRADIATION CROSSLINKED FLAME RETARDANT POLYOLEFIN CABLE COMPOUND

加工工艺 / PROCESSING TECHNIC

产品特点性能： 辐照聚烯烃具有不含卤素、耐热老化性性优、燃烧时发烟量与热释放量小、无毒、阻燃、耐火、安全、环保的特点，外观为半亮面，辐照后可达到125°C~150°C的耐热要求，广泛应用于光伏、光缆、电力电缆、储能、机车用线、动力控制线缆。

Product Features: irradiated polyolefin has halogen-free, excellent heat aging, small smoke and heat release during combustion, non-toxic, flame retardant, fire resistant, safe, environmental protection characteristics, the appearance of semi-bright surface, after irradiation can reach 125°C~150°C heat resistance requirements, widely used in photovoltaic, optical cable, power cable, energy storage, locomotive wire, power control cable.

产品规格说明 / PRODUCT SPECIFICATION

项目名称 Item	指标 Index	试验方法 Standard
密度 Density	1.35~1.55 g/cm³	GB/T1.33.1-2008
热冲击（130°C×1h）Thermal shock	无破裂NO crack	GB/T 2423 IEC60068
硬度 Hardness	75~95A	ISO 868
热延伸 (200°C×0.2Mpa×10Min) Thermal elongation	<50%	GB/T2951.11-2008
拉伸强度（100°C×168h）Tensile strength	9~15 Mpa	GB/T1040.3-2006
断裂伸长率（100°C×168h）Elongation at break	150~300%	GB/T1040.3-2006
拉伸强度变化率（100°C×168h） Variation rate of tensile strength	±20%	GB/T2951.12-2008
断裂伸长率变化率（100°C×168h） Rate of change of elongation at break	±20%	GB/T2951.12-2008
加热变形（80°C×4h）Heating deformation	< 30%	GB/T8815-2008
阻燃等级(依产品品质要求) Flame retardant rating (according to product quality requirements)	IEC60332、FT-2、VW-1、CM、CMR, D级、C级、B3级、B2级、B1级、A级 IEC60332、FT-2、VW-1、CM、CMR, Grade D, C, B3, B2, B1, A	IEC60332、UL444、 UL1581、UL1685
低温卷绕脆化温度(-20°C~-40°C) Low temperature winding embrittlement temperature	-20~-40°C不破裂 no crack	UL444/UL62
最大热释放速度HRR(KW) Maximum heat release rate HRR(KW)	<60	GB 31247-2014
热释放总量THR MJ Total heat release THR MJ	≤30	GB 31247
产烟总量TSP(M2) Total smoke production TSP(M2)	<400	GB 31247
透光率 Luminousness	>60%	EN50616
耐UV老化伸长率(340NM×720h) UV aging elongation	>80%	IEC 60247
环保等级 Environmental protection standard	符合RoHS、REACH、NP、无卤素 RoHS, REACH, NP, Halogen-free	

LSZH低烟无卤辐照交联阻燃聚烯烃线缆料(125°C、150°C)

LOW SMOKE HALOGEN-FREE IRRADIATION CROSSLINKED FLAME RETARDANT POLYOLEFIN CABLE COMPOUND

加工温度 / PROCESSING TEMPERATURE

位置 Zone	1区 Z1	2区 Z2	3区 Z3	4区 Z4	机头模头 Head Die
温度°C Temp.	140~145	150~155	160~165	150~155	145~155

1. 如为获得更为理想的效果，可以提高加工温度，最高温度不宜超过180°C，防止高温下预交联现象。
2. 最适宜的挤出温度还最终取决于用户挤出机的压缩比和长径比及螺杆结构等因素。
3. 电线的辐照剂量以线径大小为参考依据，建议的辐照剂量为10 ~ 25兆拉德(Mrad)。

1. In order to obtain more ideal results, the processing temperature can be increased, and the maximum temperature should not exceed 180°C to prevent the phenomenon of pre-crosslinking at high temperatures.
2. The most suitable extrusion temperature also depends on factors such as the compression ratio and length-diameter ratio of the user's extruder and the screw structure.
3. The radiation dose of the wire is based on the diameter of the wire, and the recommended radiation dose is 10 to 25 megabrads (Mrad).

包装、运输及贮存 / PACKAGE、TRANSPORT AND STORAGE

1. 应贮存在清洁、阴凉、干燥、通风的仓库内。如防潮失效，使用前须干燥，干燥温度80°C，时间至少1小时。

1. It should be stored in a clean, cool, dry and ventilated warehouse. If the moisture resistance fails, it must be dried before use, and the drying temperature is 80°C for at least 1 hour.

XL-PE辐照交联聚烯烃(国标125°C、150°C)
XL-PE IRRADIATION CROSSLINKED POLYOLEFIN (GB 125°C, 150°C)

加工工艺 / PROCESSING TECHNIC

产品特点性能： 辐照交联聚烯烃具有电绝缘性好、耐老化性好、耐高温、在耐油、加工方便等特点，外观为半亮面，辐照后会稍变雾，可广泛用于各类线缆的护套、绝缘，如动力线缆、照明线、控制线缆等。

Product Features: Irradiation crosslinked polyolefin has good electrical insulation, good aging resistance, high temperature resistance, oil resistance, easy processing and other characteristics, the appearance of semi-bright surface, after irradiation will be slightly foggy, can be widely used in all kinds of cable sheath, insulation, such as power cables, lighting cables, control cables and so on.

产品规格说明 / PRODUCT SPECIFICATION

项目名称 Item	指标 Index	试验方法 Standard
密度 Density	1.38 g/cm³	ASTM D1505/GB1033
融指 Melt index	< 5 g/ 10min	ASTM D1238
硬度 Hardness	80~95A	ISO 868
拉伸强度 Tensile strength	12~16 Mpa	IEC 60811- 1- 1/GB1040
热延伸(200°C×0.2Mpa×10Min) Thermal elongation	<50%	GB/T2951.11-2008
断裂伸长率 Elongation at break	≥200%	IEC 60811- 1- 1/GB1040
拉伸强度变化率 (158°C~180°C× 168h) Variation rate of tensile strength	±20%	IEC 60811- 1- 1/GB1040
断裂伸长率变化率(158°C~180°C× 168h) Change rate of elongation at break	±20%	IEC 60811- 1- 1/GB1040
加热变形(158°C~180°C× 1h)2000G Heating deformation	< 50%	UL758
阻燃测试（FT-2）60秒自熄、45度角 Flame retardant test（FT-2） 60 seconds self-extinguishing, 45 degree Angle	FT-2	UL758
热冲击及耐压测试(180°C× 1h)1KV Thermal shock and pressure resistance test	无裂纹，无击穿 No crack, no breakdown	GB/T15065
吸收系数 Absorptivity	420 Kab/m	GB/T15065
冷弯及耐电压测试（-20°C× 4h）1KV Cold bending and voltage resistance test	无裂纹，无击穿 No crack, no breakdown	GBT5470
介电强度 Dielectric strength	≥20 MV/m	IEC 60243/GB1408
体积电阻率 (20°C) Volume resistivity	≥ 1×10^{4} Ω·cm	IEC 60167/GB1410
介电常数 Dielectric constant	3.5	IEC 60247
介电损耗因数 Dielectric dissipation factor	0.0008	IEC 60247
环保等级 Environmental protection standard	符合RoHS、REACH、NP、无卤素 RoHS, REACH, NP, Halogen-free	

XL-PE辐照交联聚烯烃(国标125°C、150°C)
XL-PE IRRADIATION CROSSLINKED POLYOLEFIN (GB 125°C, 150°C)

加工温度 / PROCESSING TEMPERATURE

位置 Zone	1区 Z1	2区 Z2	3区 Z3	4区 Z4	机头模头 Head Die
温度°C Temp.	120~130	130~135	140~145	135~140	135~145

1. 如为获得更为理想的效果，可以提高加工温度，最高温度不宜超过160°C，防止高温下预交联现象。
2. 最适宜的挤出温度还最终取决于用户挤出机的压缩比和长径比及螺杆结构等因素。
3. 电线的辐照剂量以线径大小为参考依据，建议的辐照剂量为5 ~ 15兆拉德(Mrad).

1. In order to obtain more ideal results, the processing temperature can be increased, and the maximum temperature should not exceed 160°C to prevent the phenomenon of pre-crosslinking at high temperatures.
2. The most suitable extrusion temperature also depends on factors such as the compression ratio and length-diameter ratio of the user's extruder and the screw structure.
3. The radiation dose of the wire is based on the diameter of the wire, and the recommended radiation dose is 5~15 megabrads (Mrad).

包装、运输及贮存 / PACKAGE、TRANSPORT AND STORAGE

1. 应贮存在清洁、阴凉、干燥、通风的仓库内。如防潮失效，使用前须干燥，干燥温度80°C，时间至少1小时。

1. It should be stored in a clean, cool, dry and ventilated warehouse. If the moisture resistance fails, it must be dried before use, and the drying temperature is 80°C for at least 1 hour.

XL-PE辐照交联聚烯烃(美标105°C、125°C、150°C)
XL-PE IRRADIATION CROSSLINKED POLYOLEFIN (UL 105°C, 125°C, 150°C)

加工工艺 / PROCESSING TECHNIC

产品特点性能： 辐照交联聚烯烃具有高阻燃、电绝缘性好、耐老化性好、耐高温、在耐油、加工方便等特点，外观偏雾面，可广泛用于各类线缆的护套、绝缘，如动力线缆、照明线、控制线缆等。

Product Features and performance: irradiated cross-linked polyolefin has high flame retardant, good electrical insulation, good aging resistance, high temperature resistance, oil resistance, easy processing and other characteristics, the appearance of foggy surface, can be widely used in all kinds of cable sheath, insulation, such as power cables, lighting cables, control cables, etc.

产品规格说明 / PRODUCT SPECIFICATION

项目名称 Item	指标 Index	试验方法 Standard
密度 Density	1.20~1.25 g/cm^3	ASTM D1505/GB1033
融指 Melt index	< 5 g/ 10min	ASTM D1238
硬度 Hardness	85~90A	ISO 868
热延伸200°C×0.2Mpa×10Min Thermal elongation	<50%	GB/T2951.11-2008
拉伸强度 Tensile strength	12~14 Mpa	IEC 60811- 1- 1/GB1040
断裂伸长率 Elongation at break	≥300%	IEC 60811- 1- 1/GB1040
拉伸强度变化率（136°C~158°C~180°C× 168h)	±20	IEC 60811- 1- 1/GB1040
断裂伸长率变化率 (136°C~158°C~180°C× 168h)	±20	IEC 60811- 1- 1/GB1040
加热变形(150°C~158°C~180°C× 1h)2000G Heating deformation	< 50%	IEC 60811- 1- 1/GB1040
阻燃测试（VW-1） Flame retardant test	VW-1通过 Pass VW-1	UL1581
吸收系数 Absorptivity	无裂纹，无击穿 No crack, no breakdown	GB/T15065
冷弯及耐电压测试（-20°C× 4h）1KV Cold bending and voltage resistance test	420 Kab/m	GB/T15065
介电强度 Dielectric strength	无裂纹，无击穿 No crack, no breakdown	GBT5470
体积电阻率 (20°C) Volume resistivity	≥20 MV/m	IEC 60243/GB1408
介电常数 Dielectric constant	≥ 1×10^{16}Ω·cm	IEC 60167/GB1410
介电损耗因数 Dielectric dissipation factor	3.2	IEC 60247
非移行性(60°C× 72h) Non-migration	0.0008	IEC 60247
环保等级 Environmental protection standard	符合RoHS、REACH、NP、无卤素 RoHS, REACH, NP, Halogen-free	

XL-PE辐照交联聚烯烃(美标105°C、125°C、150°C)
XL-PE IRRADIATION CROSSLINKED POLYOLEFIN (UL 105°C, 125°C, 150°C)

加工温度 / PROCESSING TEMPERATURE

位置 Zone	1区 Z1	2区 Z2	3区 Z3	4区 Z4	机头模头 Head Die
温度°C Temp.	120~130	130~135	140~145	135~140	135~145

1. 如为获得更为理想的效果，可以提高加工温度，最高温度不宜超过160°C，防止高温下预交联现象。
2. 最适宜的挤出温度还最终取决于用户挤出机的压缩比和长径比及螺杆结构等因素。
3. 电线的辐照剂量以线径大小为参考依据，建议的辐照剂量为5 ~ 15兆拉德(Mrad).

1. In order to obtain more ideal results, the processing temperature can be increased, and the maximum temperature should not exceed 160°C to prevent the phenomenon of pre-crosslinking at high temperatures.
2. The most suitable extrusion temperature also depends on factors such as the compression ratio and length-diameter ratio of the user's extruder and the screw structure.
3. The radiation dose of the wire is based on the diameter of the wire, and the recommended radiation dose is 5~15 megabrads (Mrad).

包装、运输及贮存 / PACKAGE、TRANSPORT AND STORAGE

1. 应贮存在清洁、阴凉、干燥、通风的仓库内。如防潮失效，使用前须干燥，干燥温度80°C，时间至少1小时。

1. It should be stored in a clean, cool, dry and ventilated warehouse. If the moisture resistance fails, it must be dried before use, and the drying temperature is 80°C for at least 1 hour.

XL-PO软质高弹辐照交联聚烯烃(125°C、150°C)
XL-PO SOFT HIGH ELASTIC IRRADIATED CROSSLINKED POLYOLEFIN

加工工艺 / PROCESSING TECHNIC

产品特点性能： 软质高弹辐照交联聚烯烃具有不同于XLPE的硬度，手感似软橡胶细腻柔软、富有高弹性、耐寒性佳、电绝缘性好、耐老化性好、耐高温、耐油、在低温环境下能保持良好的柔顺性，外观为雾面，有加工方便等特点，广泛用于各类高弹高柔线缆的护套、绝缘，如新能源充电线缆绝缘、动力线缆、机器人线缆、动力工具车控制线缆等。

Product Features: Soft high-elastic irradiated crosslinked polyolefin has a hardness different from XLPE, Feel like soft rubber is delicate and soft, full of high elasticity, good cold resistance, good electrical insulation, good aging resistance, high temperature resistance, oil resistance, can maintain good flexibility in low temperature environment, the appearance of fog surface, easy processing and other characteristics, widely used in all kinds of high elasticity and high flexibility cable sheath, insulation, such as new energy charging cable insulation, power cable, robot cable, power tool car control cabling.

产品规格说明 / PRODUCT SPECIFICATION

项目名称 Item	指标 Index	试验方法 Standard
密度 Density	1.25~1.30 g/cm³	ASTM D1505/GB1033
融指 Melt index	< 15 g/ 10min	ASTM D1238
硬度 Hardness	70~80A	ISO 868
拉伸强度 Tensile strength	11~14 Mpa	IEC 60811- 1- 1/GB1040
断裂伸长率 Elongation at break	≥400%	IEC 60811- 1- 1/GB1040
拉伸强度变化率 (158°C× 168h) Variation rate of tensile strength	±15%	IEC 60811- 1- 1/GB1040
断裂伸长率变化率(158°C× 168h) Rate of change of elongation at break	±15%	IEC 60811- 1- 1/GB1040
加热变形(158°C× 1h)2000G Heating deformation	< 50%	UL758
阻燃测试（FT-2）60秒自熄、45度角 Flame retardant test（FT-2） 60 seconds self-extinguishing, 45 degree Angle	FT-2	UL758
热冲击及耐压测试(180°C× 1h)1KV Thermal shock and pressure resistance test	无裂纹，无击穿 No crack, no breakdown	GB/T15065
吸收系数 Absorptivity	420 Kab/m	GB/T15065
冷绕（-40°C× 4h） Cold Bend and Dielectric	无裂纹,保持柔软 No crack, keep soft	GBT5470
介电强度 Dielectric strength	≥20 MV/m	IEC 60243/GB1408
体积电阻率 (20°C) Volume resistivity	≥ $1\times10^{14}\Omega\cdot cm$	IEC 60167/GB1410
介电常数 Dielectric constant	3.0	IEC 60247
介电损耗因数 Dielectric dissipation factor	0.0008	IEC 60247
环保等级 Environmental protection standard	符合RoHS、REACH、NP、无卤素 RoHS, REACH, NP, Halogen-free	

XL-PO软质高弹辐照交联聚烯烃(125°C、150°C)
XL-PO SOFT HIGH ELASTIC IRRADIATED CROSSLINKED POLYOLEFIN

加工温度 / PROCESSING TEMPERATURE

位置 Zone	1区 Z1	2区 Z2	3区 Z3	4区 Z4	机头模头 Head Die
温度°C Temp.	120~130	130~135	140~145	135~140	135~145

1. 如为获得更为理想的效果，可以提高加工温度，最高温度不宜超过160°C，防止高温下预交联现象。
2. 最适宜的挤出温度还最终取决于用户挤出机的压缩比和长径比及螺杆结构等因素。
3. 电线的辐照剂量以线径大小为参考依据，建议的辐照剂量为10 ~ 25兆拉德(Mrad)。

1. In order to obtain more ideal results, the processing temperature can be increased, and the maximum temperature should not exceed 160°C to prevent the phenomenon of pre-crosslinking at high temperatures.
2. The most suitable extrusion temperature also depends on factors such as the compression ratio and length-diameter ratio of the user's extruder and the screw structure.
3. The radiation dose of the wire is based on the diameter of the wire, and the recommended radiation dose is 10 to 25 megabrads (Mrad).

包装、运输及贮存 / PACKAGE、TRANSPORT AND STORAGE

1. 应贮存在清洁、阴凉、干燥、通风的仓库内。如防潮失效，使用前须干燥，干燥温度80°C，时间至少1小时。

1. It should be stored in a clean, cool, dry and ventilated warehouse. If the moisture resistance fails, it must be dried before use, and the drying temperature is 80°C for at least 1 hour.

TPU新能源汽车充电线缆专用热塑性弹性体
TPU NEW ENERGY VEHICLE CHARGING CABLE SPECIAL THERMOPLASTIC ELASTOMER

加工工艺 / PROCESSING TECHNIC

产品特点性能： 软质高弹辐照交联聚烯烃具有不同于XLPE的硬度，手感似软橡胶细腻柔软、富有高弹性、耐寒性佳、电绝缘性好、耐老化性好、耐高温、耐油、在低温环境下能保持良好的柔顺性，外观为雾面，有加工方便等特点，广泛用于各类高弹高柔线缆的护套、绝缘，如新能源充电线缆绝缘、动力线缆、机器人线缆、动力工具车控制线缆等。

Product Features: Soft high-elastic irradiated crosslinked polyolefin has a hardness different from XLPE, Feel like soft rubber is delicate and soft, full of high elasticity, good cold resistance, good electrical insulation, good aging resistance, high temperature resistance, oil resistance, can maintain good flexibility in low temperature environment, the appearance of fog surface, easy processing and other characteristics, widely used in all kinds of high elasticity and high flexibility cable sheath, insulation, such as new energy charging cable insulation, power cable, robot cable, power tool car control cabling.

产品规格说明 / PRODUCT SPECIFICATION

项目名称 Item	指标 Index	试验方法 Standard
密度 Density	1.15~1.35 g/cm^3	ASTM D2240 15S
耐水解(80°C× 168h) Hydrolysis resistance	抗张强度±30%,伸长率300%以上,变化率±30% Tensile strength ±30%, elongation over 300%, change rate ±30%	GB/T2951.21-2008
耐化学液体试验(机油/汽油/柴油/尿素/矿物油/防冻液/清洁/酸碱) (23°C×168h) Chemical liquid resistance test (oil/gasoline/diesel/urea/mineral oil/antifreeze/cleaning/acid base)	抗张强度±30%，伸长率100%以上 Tensile strength ±30%, elongation of more than 100%	GB/T2951.21-2008
硬度范围 Hardness range	70~95A	ISO 868
耐曲绕 Bending resistance	单程>6万次,导体不短路,绝缘不击穿 One way > 60,000 times, conductor does not short circuit, insulation does not breakdown	GB/T33594-2017
刮磨试验 Abrasion resistance test	往复2000次不磨穿 2000 times without wearing out	JB/T 10696.6-2017
拉伸强度 Tensile strength	≥20 Mpa	GB/T33594-2017
断裂伸长率 Elongation at break	≥300%	GB/T33594-2017
老化后拉伸强度变化率 (135±2°C×168h) Change rate of tensile strength after aging	±30%	GB/T33594-2017
老化后断裂伸长率变化率(135±2°C×168h) Change rate of elongation at break after aging	>300% ±30%	GB/T33594-2017
加热变形(121°C× 1h) Heating deformation	< 50%	UL758
阻燃测试 Flame retardant test	FT-2或VW-1	GB/T 18380.12-2008
低温卷绕/拉升(-50°C) Low temperature winding/pulling	< -50°C	GB/T2951.14-2008
体积电阻率 (20°C) Volume resistivity	≥1×10^{14} Ω·cm	IEC 60167/GB1410
耐臭氧(0.025~0.030%臭氧浓度*24H) Ozone resistance (0.025~0.030% ozone concentration *24H)	不开裂 No crack	GB/T2951.14-2008
环保等级 Environmental protection standard	符合RoHS、REACH、NP、无卤素 RoHS, REACH, NP, Halogen-free	

TPU新能源汽车充电线缆专用热塑性弹性体
TPU NEW ENERGY VEHICLE CHARGING CABLE SPECIAL THERMOPLASTIC ELASTOMER

加工温度 / PROCESSING TEMPERATURE

位置 Zone	1区 Z1	2区 Z2	3区 Z3	4区 Z4	机头模头 Head Die
温度°C Temp.	145~155	165~175	180~190	190~200	175~185

1. 1.如为获得更为理想的效果，可以提高加工温度,最高温度不宜超过210°C。
2. 最适宜的挤出温度还最终取决于用户挤出机的压缩比和长径比及螺杆结构等因素。

1. In order to obtain more ideal results, the processing temperature can be increased, and the maximum temperature should not exceed 210°C.
2. The optimum extrusion temperature also ultimately depends on the compression ratio and length-diameter ratio of the user's extruder and the screw structure and other factors.

包装、运输及贮存 / PACKAGE、TRANSPORT AND STORAGE

1. 应贮存在清洁、阴凉、干燥、通风的仓库内。如防潮失效，使用前须干燥，干燥温度90°C，时间至少2~3小时。

1. It should be stored in a clean, cool, dry and ventilated warehouse. If the moisture resistance fails, it must be dried before use, the drying temperature is 90°C, and the time is at least 2 to 3 hours.

TPE苯乙烯新能源汽车充电线缆专用热塑性弹性体
TPE STYRENE NEW ENERGY VEHICLE CHARGING CABLE SPECIAL THERMOPLASTIC ELASTOMER

加工工艺 / PROCESSING TECHNIC

产品性能特点： 该材料为热塑性弹性体，主要应用于电动汽车充电线缆的绝缘层及护套，同时也可应用于各消费DC类数据线，具有高弹性、耐低温、抗UV、耐老化、低温柔顺性、耐曲绕性能等机械物理性能，其外观可依客人定制为半雾面、全雾面、细磨砂面。

Product Features: The compound is a thermoplastic elastomer, mainly used in the insulation layer and sheath of electric vehicle charging cable, but also can be used in various consumer DC data lines, with high elasticity, low temperature resistance, UV resistance, aging resistance, low temperature flexibility, bending resistance and other mechanical and physical properties, its appearance can be customized according to customers for semi-fog, full fog, fine frosted surface.

产品规格说明 / PRODUCT SPECIFICATION

项目名称 Item	指标 Index	试验方法 Standard
密度（23±2°C） Density	1.0~1.20 g/cm^3	ASTM D792
融指（230°C,5KG） Melt index	0.2~5 g/10min	ASTM D1238
硬度（23±2°C） Hardness	40~95A	ASTM D2240
耐曲绕 Bending resistance	单程>6万次,导体不短路,绝缘不击穿 One way > 60,000 times, conductor does not short circuit, insulation does not breakdown	GB/T33594-2017
刮磨试验 Abrasion resistance test	往复1000次不磨穿 1000 times without wearing out	JB/T 10696.6-2017
拉伸强度（500mm/min） Tensile strength	6~12 Mpa	ASTM D638
断裂伸长率 Elongation at break	300~600%	ASTM D638
老化后拉伸强度变化率 (100°C~136×168h) Change rate of tensile strength after aging	>80%	ASTM D638
老化后断裂伸长率变化率(110°C~136×168h) Change rate of elongation at break after aging	>65%	ASTM D638
阻燃等级测试 Flame retardant rating test	N-UL、FT-2、VW-1	UL1581
低温卷绕/拉升(-40°C) Low temperature winding/pulling	< -40°C	GB/T2951.14-2008
体积电阻率 (20°C) Volume resistivity	≥1×10^{12}Ω·cm	IEC 60167/GB1410
耐臭氧(0.025~0.030%臭氧浓度*24H) Ozone resistance (0.025~0.030% ozone concentration *24H)	不开裂 No crack	GB/T2951.14-2008
环保等级 Environmental protection standard	符合RoHS、REACH、NP、无卤素 RoHS, REACH, NP, Halogen-free	

TPE苯乙烯新能源汽车充电线缆专用热塑性弹性体
TPE STYRENE NEW ENERGY VEHICLE CHARGING CABLE SPECIAL THERMOPLASTIC ELASTOMER

加工温度 / PROCESSING TEMPERATURE

位置 Zone	1区 Z1	2区 Z2	3区 Z3	4区 Z4	机头模头 Head Die
温度°C Temp.	155~160	165~170	175~180	170~175	165~170

1. 如为获得更为理想的效果，可以提高加工温度，最高温度不宜超过210°C。
2. 最适宜的挤出温度还最终取决于用户挤出机的压缩比和长径比及螺杆结构等因素。

1. In order to obtain more ideal results, the processing temperature can be increased, and the maximum temperature should not exceed 210°C.
2. The optimum extrusion temperature also ultimately depends on the compression ratio and length-diameter ratio of the user's extruder and the screw structure and other factors.

包装、运输及贮存 / PACKAGE、TRANSPORT AND STORAGE

1. 应贮存在清洁、阴凉、干燥、通风的仓库内。如防潮失效，使用前须干燥，干燥温度90°C，时间至少1~2小时。

1. It should be stored in a clean, cool, dry and ventilated warehouse. If the moisture resistance fails, it must be dried before use, the drying temperature is 90°C, and the time is at least 1 to 2 hours.

PUR热塑性弹性体
PUR THERMOPLASTIC ELASTOMER

加工工艺 / PROCESSING TECHNIC

产品特点性能： 该材料为热塑性弹性体，主要应用于机器人拖链线缆、弹簧线、户外防水线、具有高强度、高弹性、耐油性好、耐磨性好、优异的低温柔顺性、耐曲绕性能等机械物理性能，特别好加工押出，可广泛用于特种耐油耐寒高弹电线电缆及消费类电子产品。

Product Features: the compound is a thermoplastic elastomer, mainly used in robot drag chain cable, spring wire, outdoor waterproof wire, with high strength, high elasticity, good oil resistance, good wear resistance, excellent low temperature flexibility, bending resistance and other mechanical and physical properties, especially good processing out, can be widely used in special oil and cold resistance high elastic wire and cable and consumer electronics products.

产品规格说明 / PRODUCT SPECIFICATION

项目名称 Item	指标 Index	试验方法 Standard
密度 Density	1.25~1.35 g/cm³	ASTM D2240 15S
耐水解(80°C× 168h) Hydrolysis resistance	抗张强度±30%,伸长率300%以上,变化率±30% Tensile strength ±30%, elongation over 300%, change rate ±30%	GB/T2951.21-2008
耐化学液体试验(机油/汽油/柴油/尿素/矿物油/防冻液/清洁/酸碱)(23°C×168h) Chemical liquid resistance test (oil/gasoline/diesel/urea/mineral oil/antifreeze/cleaning/acid base)	抗张强度±30%，伸长率100%以上 Tensile strength ±30%, elongation of more than 100%	GB/T2951.21-2008
硬度范围 Hardness range	60~95A	ISO 868
耐曲绕 Bending resistance	单程>6万次,导体不短路,绝缘不击穿 One way > 60,000 times, conductor does not short circuit, insulation does not breakdown	GB/T33594-2017
刮磨试验 Scraping test	往复2000次不磨穿 2000 times without wearing out	JB/T 10696.6-2017
拉伸强度 Tensile strength	≥20 Mpa	GB/T33594-2017
断裂伸长率 Elongation at break	≥300%	GB/T33594-2017
老化后拉伸强度变化率 (110°C×168h) Change rate of tensile strength after aging	±30%	GB/T33594-2017
老化后断裂伸长率变化率(110°C×168h) Change rate of elongation at break after aging	>300% ±30%	GB/T33594-2017
加热变形(121°C× 1h) Heating deformation	< 50%	UL758
阻燃测试 Flame retardant test	FT-2或VW-1	GB/T 18380.12-2008
低温卷绕/拉升(-50°C) Low temperature winding/pulling	< -50°C	GB/T2951.14-2008
体积电阻率 (20°C) Volume resistivity	≥1×10¹⁴ Ω·cm	IEC 60167/GB1410
耐臭氧(0.025~0.030%臭氧浓度*24H) Ozone resistance (0.025~0.030% ozone concentration *24H)	不开裂 No crack	GB/T2951.14-2008
环保等级 Environmental protection standard	符合RoHS、REACH、NP、无卤素 RoHS, REACH, NP, Halogen-free	SONY SS-00259

PUR热塑性弹性体
PUR THERMOPLASTIC ELASTOMER

加工温度 / PROCESSING TEMPERATURE

位置 Zone	1区 Z1	2区 Z2	3区 Z3	4区 Z4	机头模头 Head Die
温度°C Temp.	140~150	155~160	160~165	165~170	145~155

1. 如为获得更为理想的效果，可以提高加工温度，最高温度不宜超过180°C。
2. 最适宜的挤出温度还最终取决于用户挤出机的压缩比和长径比及螺杆结构等因素。

1. In order to obtain more ideal results, the processing temperature can be increased, and the maximum temperature should not exceed 180°C.
2. The optimum extrusion temperature also ultimately depends on the compression ratio and length-diameter ratio of the user's extruder and the screw structure and other factors.

包装、运输及贮存 / PACKAGE、TRANSPORT AND STORAGE

1. 应贮存在清洁、阴凉、干燥、通风的仓库内。如防潮失效，使用前须干燥，干燥温度70°C，时间至少0.5~1小时。

1. It should be stored in a clean, cool, dry and ventilated warehouse. If the moisture resistance fails, it must be dried before use, the drying temperature is 70°C, and the time is at least 0.5 to 1 hour.

XL-PVC辐照电线料(UL 1430)
XL-PVC IRRADIATED WIRE COMPOUND (UL 1430)

加工工艺 / PROCESSING TECHNIC

产品特点性能： 该材料由高聚合聚氯乙稀、环保增塑剂、辐照交联剂、敏化助剂、阻燃剂、等配制而成，具有可交联性、高耐热性、耐热变形性、自熄性、耐刮磨性、手感光滑、耐酸碱、加工方便等特点，广泛用于马达电子线、建筑用线、汽车用线、轻型特软电线电缆、深井潜水电缆等。

Product Features: The compound is made of high polymerization polyvinyl chloride, environmental plasticizer, irradiation crosslinking agent, sensitizing agent, flame retardant, etc. It has the characteristics of crosslinking, high heat resistance, heat deformation, self-extinguishing, scratch resistance, smooth feel, acid and alkali resistance, easy processing, etc. It is widely used in motor electronic wire, construction wire, automobile wire, light and ultra-soft wire and cable, deep well diving cable, etc.

产品规格说明 / PRODUCT SPECIFICATION

项目名称 Item	指标 Index	试验方法 Standard
密度 Density	1.25~1.35 g/cm^3	ASTM D2240 15S
融指 Melt index	< 40 g/ 10min	GB/T2951.21-2008
硬度 Hardness	80~95A	GB/T2951.21-2008
拉伸强度 Tensile strength	15~20 Mpa	ISO 868
断裂伸长率 Elongation at break	≥150%	GB/T33594-2017
老化后拉伸强度变化率(75°C、90°C、105°C) Change rate of tensile strength after aging	≥70%	JB/T 10696.6-2017
老化后断裂伸长率变化率(75°C、90°C、105°C) Change rate of elongation at break after aging	≥95%	GB/T33594-2017
加热变形(158°C× 1h)2000G Heating deformation	< 15%	GB/T33594-2017
阻燃测试 Flame retardant test	VW-1	GB/T33594-2017
热延伸试验,负荷下伸长率(200°C±15min) Thermal extension test, elongation under load	≤50%无裂纹	GB/T33594-2017
低温冲击（-20°C× 4h） Low-temperature impact	No crack	UL758
透光率(烟密度试验)Luminousness(Smoke density test)	>60%	GB/T 18380.12-2008
体积电阻率 (20°C) Volume resistivity	≥ 1×10^{12} Ω1·cm	GB/T2951.14-2008
耐化学液体草酸（0.5mol/L）,NaOH(1mol/L) 23°C*168H抗张强度±30% 伸长100%↑ Resistant to chemical liquid oxalic acid（0.5mol/L）, NaOH(1mol/L）23°C*168H Tensile strength ±30% Elongation 100%↑	250%~300%	IEC 60167/GB1410 GB/T2951.14-2008
环保等级 Environmental protection standard	符合RoHS、REACH、NP、无卤素 RoHS, REACH, NP, Halogen-free	SONY SS-00259

XL-PVC辐照电线料(UL 1430)
XL-PVC IRRADIATED WIRE COMPOUND (UL 1430)

加工温度 / PROCESSING TEMPERATURE

位置 Zone	1区 Z1	2区 Z2	3区 Z3	4区 Z4	机头模头 Head Die
温度°C Temp.	135~145	145~155	155~165	155~175	165~175

1. 如为获得更为理想的效果，可以提高加工温度，最高温度不宜超过190°C，防止高温下气孔现象。

1. In order to obtain more ideal results, the processing temperature can be increased, and the maximum temperature should not exceed 190 ° C to prevent porosity phenomenon at high temperatures.

包装、运输及贮存 / PACKAGE、TRANSPORT AND STORAGE

1. 应贮存在清洁、阴凉、干燥、通风的仓库内。如防潮失效，使用前须干燥，干燥温度80°C，时间至少1小时。

1. It should be stored in a clean, cool, dry and ventilated warehouse. If the moisture resistance fails, it must be dried before use, and the drying temperature is 80°C for at least 1 hour.

PVC高阻燃线缆料(BS476-7 CLASS、CM、CMR、CMP)
PVC HIGH FLAME RETARDANT CABLE COMPOUND (BS476-7 CLASS, CM, CMR, CMP)

加工工艺 / PROCESSING TECHNIC

产品特点性能： 该材料由高聚合聚氯乙稀、环保增塑剂、陶瓷阻燃剂、钼系阻燃剂、成炭剂、高分子助剂等配制而成，具有高阻燃性、低烟低卤性、自熄性、细腻雾面、手感光滑、耐高温、耐酸碱、加工方便等特点，广泛用于各类对于火灾风险较大的地铁、电站、办公大楼、公共场所等，以有效保护人类生产活动安全，应用于石化、钢铁、航空、造船、军工、制药、食品等行业的电线电缆。

Product Features: The compound is made of high polymerization polyvinyl chloride, environmental protection plasticizer, ceramic flame retardant, molybdenum flame retardant, carbon forming agent, polymer additives, etc. It has the characteristics of high flame retardant, low smoke and low halogen, self-extinguishing, fine fog surface, smooth feel, high temperature resistance, acid and alkali resistance, easy processing, etc., widely used in all kinds of subway, power station, office building, public places, etc. with greater fire risk, to effectively protect the safety of human production activities, and used in petrochemical, steel, aviation, shipbuilding, military, pharmaceutical, food and other industries of wire and cable .

产品规格说明 / PRODUCT SPECIFICATION

项目名称 Item	指标 Index				试验方法 Standard
	FT-4	CM	CMR	CMP	
密度(g/cm3) Density	1.45±0.03	1.48±0.03	1.50±0.03	1.55±0.03	ASTM D1505/GB1033
融指(g/ 10min) Melt index	< 35	< 32	< 30	< 25	ASTM D1238
硬度 (SA) Hardness	80±5	85±5	88±5	90±5	ISO 868
拉伸强度(Mpa) Tensile strength	12±2	13±2	14±2	15±2	IEC 60811- 1- 1/GB1040
断裂伸长率 (%) Tensile strength	150~220	150~200	150~180	130~160	IEC 60811- 1- 1/GB1040
老化后拉伸强度变化率 (113°C× 168h) Change rate of tensile strength after aging	≥85%	≥80%	≥75%	≥70%	UL1581
老化后断裂伸长率变化率 (113°C× 168h) Change rate of elongation at break after aging	≥95%	≥100%	≥105%	≥110%	UL1581
加热变形(158°C× 1h)2000G Heating deformation	< 50%	< 50%	< 50%	< 50%	UL758
阻燃测试 Flame retardant test (CL-1、CL-2、CL-3、FT-4、CM、CMX、CMR、CMP)	氧指OI≥36	氧指OI≥38	氧指OI≥42	氧指OI≥48	BS476-7 UL444
低温冲击（ - 20°C× 4h） Low-temperature impact	无裂纹 No Crack	无裂纹 No Crack	无裂纹 No Crack	无裂纹 No Crack	GBT5470
透光率(烟密度试验)Luminousness(Smoke density test)	-	-	>60%	>60%	GB 31247
体积电阻率 (20°C) Ω • cm Volume resistivity	≥ 1×10^{10}	≥ 1×10^{10}	≥ 1×10^{9}	≥ 1×10^{8}	IEC 60167/GB1410
环保等级 Environmental protection standard	符合RoHS、REACH、NP RoHS, REACH, NP				IEC62321

PVC高阻燃线缆料(BS476-7 CLASS、CM、CMR、CMP)
PVC HIGH FLAME RETARDANT CABLE COMPOUND (BS476-7 CLASS, CM, CMR, CMP)

加工温度 / PROCESSING TEMPERATURE

位置 Zone	1区 Z1	2区 Z2	3区 Z3	4区 Z4	机头模头 Head Die
温度°C Temp.	135~145	145~155	155~165	155~175	165~175

1. 如为获得更为理想的效果，可以提高加工温度,最高温度不宜超过190°C，防止高温下气孔现象。

1. In order to obtain more ideal results, the processing temperature can be increased, and the maximum temperature should not exceed 190 ° C to prevent porosity phenomenon at high temperatures.

包装、运输及贮存 / PACKAGE、TRANSPORT AND STORAGE

1. 应贮存在清洁、阴凉、干燥、通风的仓库内。如防潮失效，使用前须干燥，干燥温度80°C，时间至少1小时。

1. It should be stored in a clean, cool, dry and ventilated warehouse. If the moisture resistance fails, it must be dried before use, and the drying temperature is 80°C for at least 1 hour.

PVC耐油拖链线缆料(1500万级)
PVC OIL RESISTANT DRAG CHAIN CABLE COMPOUND（15 MILLION CLASS)

加工工艺 / PROCESSING TECHNIC

产品特点性能： 该材料由高聚合聚氯乙稀、环保增塑剂、陶瓷阻燃剂、钼系阻燃剂、成炭剂、高分子助剂等配制而成，具有高阻燃性、低烟低卤性、自熄性、细腻雾面、手感光滑、耐高温、耐酸碱、加工方便等特点，广泛用于各类对于火灾风险较大的地铁、电站、办公大楼、公共场所等，以有效保护人类生产活动安全，应用于石化、钢铁、航空、造船、军工、制药、食品等行业的电线电缆。

Product Features: The compound is made of high polymerization polyvinyl chloride, environmental protection plasticizer, ceramic flame retardant, molybdenum flame retardant, carbon forming agent, polymer additives, etc. It has the characteristics of high flame retardant, low smoke and low halogen, self-extinguishing, fine fog surface, smooth feel, high temperature resistance, acid and alkali resistance, easy processing, etc., widely used in all kinds of subway, power station, office building, public places, etc. with greater fire risk, to effectively protect the safety of human production activities, and used in petrochemical, steel, aviation, shipbuilding, military, pharmaceutical, food and other industries of wire and cable .

产品规格说明 / PRODUCT SPECIFICATION

项目名称 Item	单位 Unit	指标 Index	典型值 Typical value	试验方法 Standard
密度 Density	g/cm³	1.30±0.02	1.28	ASTM D2240 15S 读数reading
融指(190°C,2.16kg) Melt index	g/10min	< 20	10	ASTM D1238
硬度 Hardness	A	60~85	65	ISO 868
耐曲绕 Bending resistance	万次 One million time		>1500万次 million times	依客户自定（1米机或5米机型） Customized by the customer (1 or 5 meter machine type)
拉伸强度 Tensile strength	Mpa	≥10	11~12	IEC 60811- 1- 1/GB1040
断裂伸长率 Elongation at break	%	≥200	400 ~500	IEC 60811- 1- 1/GB1040
拉伸强度变化率 (113°C×168h) Variation rate of tensile strength	%	≥80	85	IEC 60811- 1- 1/GB1040
断裂伸长率变化率(113°C×168h) Rate of change of elongation at break	%	≥65	85	IEC 60811- 1- 1/GB1040
加热变形(121°C× 1h) Heating deformation	%	< 50	25	UL758
阻燃测试（FT-2）60秒自熄、45度角 Flame retardant test（FT-2）60 seconds self-extinguishing, 45 degree Angle	S	< 60	依要求 As required	UL758
低温脆化温度 Low temperature brittleness	°C	< -40	-40	GBT5470
阻燃 Flame retardant	-	可依要求而定 Upon request		UL1581
体积电阻率 (20°C) Volume resistivity	Ω·cm	≥1×10¹³	1×10¹³	IEC 60167/GB1410

PVC耐油拖链线缆料(1500万级)
PVC OIL RESISTANT DRAG CHAIN CABLE COMPOUND（15 MILLION CLASS)

产品规格说明 / PRODUCT SPECIFICATION

项目名称 Item	单位 Unit	指标 Index	典型值 Typical value	试验方法 Standard
耐液体测试，汽油，柴油，机油 温度125°C 时间240h 芯轴Φ16mm 卷绕4圈 耐压1kV, 1min Resistance to liquid testing, gasoline, diesel, motor oil Temp.125°C time 240h mandrel Φ16mm Wind 4 times withstand voltage 1kV, 1min		无裂纹 不击穿 No crack, no breakdown,	无裂纹 不击穿 No crack, no breakdown,	QC/T 1037-2016 CQC1143 PPP58049A
非移行性(60°C× 72h) Non-migration	-	ABS/PS	NM	NO migration

所列数据为典型值而非保证值。The data listed are typical values and not guaranteed values.

加工温度 / PROCESSING TEMPERATURE

位置 Zone	1区 Z1	2区 Z2	3区 Z3	4区 Z4	机头模头 Head Die
温度°C Temp.	150±5	155±10	160±10	162±10	150±10

1. 如为获得更为理想的效果，可以提高加工温度，最高温度不宜超过190°C。
2. 最适宜的挤出温度还最终取决于用户挤出机的压缩比和长径比及螺杆结构等因素。

1. In order to obtain more ideal results, the processing temperature can be increased, and the maximum temperature should not exceed 190°C.
2. The optimum extrusion temperature also ultimately depends on the compression ratio and length-diameter ratio of the user's extruder and the screw structure and other factors

包装、运输及贮存 / PACKAGE、TRANSPORT AND STORAGE

1. 包装：每袋25kg，纸质防潮袋外包装。
2. 运输和贮存：电缆料在运输过程中不应受日晒雨淋，应贮存在清洁、阴凉、干燥、通风的仓库内。如防潮失效，使用前须干燥，干燥温度70°C，时间至少1小时。

1. Package: 25kg per bag, paper moisture-proof bag packing.
2. Transport and Storage: The compound should not be exposed to the sun and rain during transportation. It should be stored in a clean, cool, dry and ventilated warehouse. If the moisture resistance fails, it must be dried before use, and the drying temperature is 70°C for at least 1 hour.

CPVC(CTPE)125°C自然交联热塑性弹性体
CPVC(CTPE)125°C NATURAL CROSSLINKING THERMOPLASTIC ELASTOMER

加工工艺 / PROCESSING TECHNIC

产品特点性能： 该材料为自交联热塑性弹性体，主要应用于电动车直流及交流充电线缆、高压储能线缆、户外特种耐高温线缆、具有耐高温、耐老化、高强度、耐酸碱、耐低温、耐磨性好、优异的耐高压、耐曲绕性能等机械物理性能，有自交联功能，外观有半亮面、雾面、磨砂面，可广泛用于各类新能源耐温耐压耐寒耐酸碱特种线缆。

Product Features: The material is self-crosslinked thermoplastic elastomer, which is mainly used in electric vehicle DC and AC charging cable, high voltage energy storage cable, outdoor special high temperature resistant cable, with high temperature resistance, aging resistance, high strength, acid and alkali resistance, low temperature resistance, good wear resistance, excellent high pressure resistance, bending resistance and other mechanical and physical properties, with self-crosslinking function, appearance of semi-bright surface, fog surface, frosted surface, etc. Can be widely used in all kinds of new energy temperature, pressure, cold, acid and alkali resistant special cables.

产品规格说明 / PRODUCT SPECIFICATION

项目名称Item	指标 Index	试验方法 Standard
耐拖磨试验荷重 1. 5kg，耐刮磨试验，施加力7N Drag wear test load 1.5kg, scratch wear test, applied force 7N	>1500次times	QC/T 1037-2016
密度 Density	1.35~1.40 g/cm³	ASTM D2240 15S
硬度 25°C±2°C Hardness	65~85A	ASTM D792
融指 Melt index	<50 g/ 10min	ASTM D1238
热稳定性试验 200±2°C Thermal stability test	≥120min	UL1581
体积电阻率20°C Volume resistivity	1.0 X10¹³Ω·M	UL1581
原始抗张强度 Original tensile strength	≥1.15 (Kgf/mm²)	UL1581
原始伸长率 Original elongation	≥250%	UL1581
老化后抗张残留率 150°C±1°C 240Hrs Tensile residual rate after aging	≥100%	UL1581
老化后伸长残留率 150°C±1°C 240Hrs Elongation residual rate after aging	≥80%	UL1581
热变形试验150°C±2°C 4Hrs 0.5KG Heat deformation test	≤50%	UL1581
燃烧试验VW-1 Combustion test	通过 Pass	UL1581
低温湾曲试验 - 40±1°C 4H Low temperature bend test	无裂纹 No crack	UL1581
耐压试验 2000V AC 5min High-voltage holding test	不击穿 Non breakdown	UL1581
热冲击试验 150°C±1°C 1H Thermal shock test	无裂纹 No crack	UL1581
环境管理物质 Environmental management substance	N-16P、ROHS2.0、REACH、低烟低卤素 Low smoke and low halogen	SONY SS-00259
耐油：汽油、柴油、机油,温度125°C 240h 芯轴Φ16mm 卷绕4圈，耐压1kV, 1min Oil resistance: gasoline, diesel, oil, temperature 125°C 240h mandrel Φ16mm winding 4 times, pressure resistance 1kV, 1min	无裂纹, 不击穿 No crack、Non breakdown	QC/T 1037-2016 CQC1143
耐化学液体草酸（0.5mol/L),NaOH(1mol/L）23°C*168H 抗张强度±30% 伸长100%↑ Resistant to chemical liquid oxalic acid（0.5mol/L）NaOH(1mol/L）23°C*168H Tensile strength ±30% Elongation 100%↑	250%~300%	PPP58049A

CPVC(CTPE)125°C自然交联热塑性弹性体
CPVC(CTPE)125°C NATURAL CROSSLINKING THERMOPLASTIC ELASTOMER

加工温度 / PROCESSING TEMPERATURE

位置 Zone	1区 Z1	2区 Z2	3区 Z3	4区 Z4	机头模头 Head Die
温度°C Temp.	150~160	165~175	180~190	170~175	165~175

1. 如为获得更为理想的效果，可以提高加工温度,最高温度不宜超过200°C。
2. 最适宜的挤出温度还最终取决于用户挤出机的压缩比和长径比及螺杆结构等因素。

1. In order to obtain more ideal results, the processing temperature can be increased, and the maximum temperature should not exceed 200°C.
2. The most suitable extrusion temperature also depends on factors such as the compression ratio and length-diameter ratio of the use's extruder and the screw structure.

包装、运输及贮存 / PACKAGE、TRANSPORT AND STORAGE

1. 应贮存在清洁、阴凉、干燥、通风的仓库内。如防潮失效，使用前须干燥，干燥温度70°C，时间至少0.5~1小时。

1. It should be stored in a clean, cool, dry and ventilated warehouse. If the moisture resistance fails, it must be dried before use, and the drying temperature is 70°C for at least 0.5~1 hour.

LSZH低烟无卤阻燃聚烯烃光缆专用料(75°C OFPR& OFPN)

LOW SMOKE HALOGEN-FREE FLAME RETARDANT POLYOLEFIN CABLE MATERIAL (75°C OFPR& OFPN)

加工工艺 / PROCESSING TECHNIC

产品特点性能： 聚烯烃具有不含卤素、燃烧时发烟量与热释放量小、无毒、阻燃、耐火、安全、环保的特点，外观为半亮面，无需辐照便可达到70°C~105°C的耐热要求，广泛应用于家装布线、光缆、网络线、动力与控制线缆。

Product features: Polyolefin has halogen-free, small smoke and heat release during combustion, non-toxic, flame retardant, fire-resistant, safe, environmental protection characteristics, the appearance of semi-bright surface, without irradiation can reach the heat resistance requirements of 70°C~105°C, widely used in home wiring, optical cables, network cables, power and control cables.

产品规格说明 / PRODUCT SPECIFICATION

项目名称Item	指标 Index	试验方法 Standard
密度 Density	1.45~1.60 g/cm³	GB/T1.33.1-2008
热冲击（130°C×1h）Thermal shock	无破裂 No cracking	GB/T 2423 IEC60068
硬度 Hardness	93~97A	ISO 868
老化前拉伸强度 Tensile strength before aging	≥138Mpa	GB/T1040.3-2006
老化前断裂伸长率 Elongation at break before aging	≥100%	GB/T1040.3-2006
老化后拉伸强度变化率（100°C×168h） Change rate of tensile strength after aging	≥85%	UL444
老化后断裂伸长率变化率（100°C×168h） Change rate of elongation at break after aging	≥50%	UL444
冷弯（-20°C×4h） Low temperature impact embrittlement	无破裂 No cracking	UL2556
阻燃等级(氧指数) Flame retardant rating (oxygen index)	≥46	UL444
热释放总量THR MJ Total heat release	≤15	GB 31247
产烟总量TSP(M2) Total smoke production	<400	GB 31247
透光率 Luminousness	>60%	GB 31247
电导率(Us/mm) Conductivity	≤10	GB/T17650.2-1998
浸热水试验(70°C×168h）Hot water immersion test	断裂伸长变化率±35%, 拉伸强度变化率±30% The change rate of fracture elongation is ±35%, and the change rate of tensile strength is ±30%	GB/T1040.3-2006
PH值 Pondus hydrogenii value	≥4.3	IEC 60247
抗撕裂强度(N/mm) Tear resistance	≥6.5	JB/T10696.7-2007

LSZH低烟无卤阻燃聚烯烃光缆专用料(75°C OFPR& OFPN)

LOW SMOKE HALOGEN-FREE FLAME RETARDANT POLYOLEFIN CABLE MATERIAL (75°C OFPR& OFPN)

加工温度 / PROCESSING TEMPERATURE

位置 Zone	1区 Z1	2区 Z2	3区 Z3	4区 Z4	机头模头 Head Die
温度°C Temp.	150~160	170~175	180~185	170~165	170~160

1. 如为获得更为理想的效果，可以提高加工温度，最高温度不宜超过195°C。
2. 最适宜的挤出温度还最终取决于用户挤出机的压缩比和长径比及螺杆结构等因素。

1. In order to obtain more ideal results, the processing temperature can be increased, and the maximum temperature should not exceed 195°C.
2. The most suitable extrusion temperature also depends on factors such as the compression ratio and length-diameter ratio of the use's extruder and the screw structure.

包装、运输及贮存 / PACKAGE、TRANSPORT AND STORAGE

1. 应贮存在清洁、阴凉、干燥、通风的仓库内。如防潮失效，使用前须干燥，干燥温度80°C，时间至少1小时。

1. It should be stored in a clean, cool, dry and ventilated warehouse. If the moisture resistance fails, it must be dried before use, and the drying temperature is 80°C for at least 1 hour.

80°C 90A 高透PVC热塑性注塑料
80°C 90A HIGH PERMEABILITY PVC THERMOPLASTIC INJECTION COMPOUND

加工工艺 / PROCESSING TECHNIC

产品特点性能： 该材料由特殊PVC树脂及环保增塑剂合成，为高透明热塑性弹性注塑料，主要应用于高透明汽车注塑件、高透明异型材、建材、文具、医疗、玩具、体育用品等产品，具有耐高温、耐老化、高强度、耐酸碱、耐低温、耐磨性好、环保无气味。

Product features: The material is made of special PVC resin and environmental plasticizer, for high transparent thermoplastic elastic injection plastic, mainly used in high transparent automotive injection parts, high transparent profile, building materials, stationery, medical, toys, sporting goods and other products, with high temperature resistance, aging resistance, high strength, acid and alkali resistance, low temperature resistance, good wear resistance, environmental protection without odor.

产品规格说明 / PRODUCT SPECIFICATION

项目名称Item	指标 Index	试验方法 Standard
透明度透光率(%) Transparency Transmittance	>80%	91%
密度 Density	1.30~1.40 g/cm³	ASTM D2240 15S
硬度25°C±2°C Hardness	90~95A	ASTM D792
融指 Melt index	<50 g/ 10min	ASTM D1238
热稳定性试验200±2°C Thermal stability test	≥120min	UL1581
体积电阻率 (20°C) Volume resistivity	1.0 X1013Ω·M	UL1581
原始抗张强度 Original tensile strength	≥1.45(Kgf/mm²)	UL1581
原始伸长率 Original elongation	≥200%	UL1581
热变形试验150°C±2°C 4Hrs 0.5KG Heat deformation test	≤50%	UL1581
燃烧试验V2 Combustion test	通过	UL1581
低温湾曲试验 -40±1°C 4H(静态) Low temperature bend test -40±1°C 4H (static state)	无裂纹	UL1581
耐压试验2000V AC 5min High-voltage holding test	不击穿	UL1581
热冲击试验150°C±1°C 1H Thermal shock test	无裂纹	UL1581
环境管理物质 Environmental management substance	N-16P、ROHS2.0、REACH	SONY SS-00259
耐化学液体草酸（0.5mol/L), NaOH(1mol/L) 23°C*168H Resistant to chemical liquid oxalic acid 抗张强度±30% 伸长100%↑ Tensile strength ±30% Elongation 100%↑	250%~300%	QC/T 1037-2016 CQC1143

80°C 90A 高透PVC热塑性注塑料
80°C 90A HIGH PERMEABILITY PVC THERMOPLASTIC INJECTION COMPOUND

加工温度 / PROCESSING TEMPERATURE

位置 Zone	1区 Z1	2区 Z2	3区 Z3	4区 Z4	机头模头 Head Die
温度°C Temp.	150~160	165~175	180~190	170~175	165~175

1. 如为获得更为理想的效果，可以提高加工温度，最高温度不宜超过200°C。
2. 最适宜的挤出温度还最终取决于用户挤出机的压缩比和长径比及螺杆结构等因素。

1. In order to obtain more ideal results, the processing temperature can be increased, and the maximum temperature should not exceed 200°C.
2. The most suitable extrusion temperature also depends on factors such as the compression ratio and length-diameter ratio of the user's extruder and the screw structure.

包装、运输及贮存 / PACKAGE、TRANSPORT AND STORAGE

1. 应贮存在清洁、阴凉、干燥、通风的仓库内。如防潮失效，使用前须干燥，干燥温度70°C，时间至少0.5~1小时。

1. It should be stored in a clean, cool, dry and ventilated warehouse. If the moisture resistance fails, it must be dried before use, and the drying temperature is 70°C for at least 0.5 to 1 hour.

电焊机专用PVC弹性体电缆料
WELDING MACHINE SPECIAL PVC ELASTOMER CABLE COMPOUND

加工工艺 / PROCESSING TECHNIC

产品特点性能： 该材料主要应用于电焊机电缆线专用料，是以弹性体、高聚聚氯乙烯、聚乙烯、丁睛树脂、耐磨剂、相容剂、滑剂等加工助剂浓缩而成的粒状塑料。具有优异的耐磨、耐热,耐热冲击，耐油性能；优异的耐寒、耐曲绕性能等机械物理性能及加工性能好，品质稳定。

Product Features: The compound is mainly used in welding machine cable special material, which is a granular plastic concentrated from elastomer, high polyvinyl chloride, polyethylene, butoxide resin, wear-resistant agent, compatible agent, slip agent and other processing additives. Excellent wear resistance, heat resistance, heat shock resistance, oil resistance; Excellent cold resistance, bending resistance and other mechanical and physical properties and processing properties, stable quality.

产品规格说明 / PRODUCT SPECIFICATION

项目名称Item	单位 Unit	指标 Index	典型值 Typical value	试验方法 Standard
密度 Density	g/cm³	1.38±0.02	1.37	ASTM D2240 15S 读数
融指(190°C,2.16kg) Melt index	g/10min	<20	15	ASTM D1238
硬度 Hardness	A	60~65	62	ISO 868
耐曲绕 Bending resistance	万次 One million time		>2000万次 >20 million times	依客户自定 (1米机或5米机型) Customized by the customer (1 or 5 meter machine type)
拉伸强度 Tensile strength	Mpa	≥10	12~14	IEC 60811- 1- 1/GB1040
断裂伸长率 Elongation at break	%	≥200	400 ~500	IEC 60811- 1- 1/GB1040
拉伸强度变化率 (113°C×168h) Variation rate of tensile strength	%	≥80	90	IEC 60811- 1- 1/GB1040
断裂伸长率变化率(113°C×168h) Rate of change of elongation at break	%	≥65	85	IEC 60811- 1- 1/GB1040
加热变形(121°C× 1h) Heating deformation	%	<50	20	UL758
阻燃测试（FT-2) 60秒自熄、45度角 Flame retardant test(FT-2)60 seconds self-extinguishing, 45 degree Angle	S	<60	依要求 As required	UL758
低温脆化温度 Low temperature brittleness	°C	<-40	-40	GBT5470
阻燃 Flame retardant	-	FT-2	FT-2	UL1581
体积电阻率 (20°C) Volume resistivity	Ω·cm	≥1×10¹⁴	1×10¹⁴	IEC 60167/GB1410
耐液体测试，汽油，柴油，机油 温度125°C 时间240h 芯轴Φ16mm 卷绕4圈 耐压1kV, 1min Resistance to liquid testing, gasoline, diesel, motor oilTemp.125°C time 240h mandrel Φ16mm Wind 4 times withstand voltage 1kV, 1min		无裂纹, 不击穿 No crack, no breakdown,	无裂纹, 不击穿 No crack, no breakdown,	QC/T 1037-2016 CQC1143 PPP58049A
非移行性(60°C× 72h) Non-migration	-	ABS/PS	NM	NO migration

电焊机专用PVC弹性体电缆料
WELDING MACHINE SPECIAL PVC ELASTOMER CABLE COMPOUND

工艺 / TECHNOLOGY

可采用普通螺杆挤出。 It can be extruded by ordinary screw.

加工温度 / PROCESSING TEMPERATURE

位置 Zone	1区 Z1	2区 Z2	3区 Z3	4区 Z4	机头模头 Head Die
温度°C Temp.	165±5	170±5	175±5	175±5	150±10

1. 如为获得更为理想的效果，可以提高加工温度,最高温度不宜超过190°C。
2. 最适宜的挤出温度还最终取决于用户挤出机的压缩比和长径比及螺杆结构等因素。

1. In order to obtain more ideal results, the processing temperature can be increased, and the maximum temperature should not exceed 190°C.
2. The optimum extrusion temperature also ultimately depends on the compression ratio and length-diameter ratio of the user's extruder and the screw structure and other factors.

包装、运输及贮存 / PACKAGE、TRANSPORT AND STORAGE

1. 包装：每袋25kg，纸质防潮袋外包装。
2. 运输和贮存：电缆料在运输过程中不应受日晒雨淋，应贮存在清洁、阴凉、干燥、通风的仓库内。如防潮失效，使用前须干燥，干燥温度70°C，时间至少1小时。

1. Package: 25kg per bag, paper moisture-proof bag packing.
2. Transport and Storage: The compound should not be exposed to the sun and rain during transportation. It should be stored in a clean, cool, dry and ventilated warehouse. If the moisture resistance fails, it must be dried before use, and the drying temperature is 70°C for at least 1 hour.

SR-PVC半硬质胶料
SEMI-HARD RUBBER COMPOUND SEMI-HARD COMPOUND

加工工艺 / PROCESSING TECHNIC

产品特点性能： 该材料为高硬度高抗张半硬质胶料，主要应用于机器人拖链电缆的绝缘线料、耐弯折及耐熔损电子线料，具有高强度、高抗张、耐酸碱、耐低温、耐磨性好、耐曲绕性能等机械物理性能。

Product Features: The compound is high hardness and high tensile semi-hard rubber material, mainly used in the robot towed chain cable insulation wire material, bending resistance and melting resistance of electronic wire material, with high strength, high tensile, acid and alkali resistance, low temperature resistance, good wear resistance, bending resistance and other mechanical and physical properties.

产品规格说明 / PRODUCT SPECIFICATION

项目名称Item	指标 Index	试验方法 Standard
耐拖磨试验荷重 1. 5kg，耐刮磨试验，施加力7N Drag wear test load 1.5kg, scratch wear test, applied force 7N	>1500次 >1500 times	QC/T 1037-2016
密度 Density	1.25~1.40 g/cm^3	ASTM D2240 15S
硬度 25°C±2°C Hardness	95~98A	ASTM D792
融指 Melt index	<30 g/ 10min	ASTM D1238
热稳定性试验 200±2°C Thermal stability test	≥120min	UL1581
体积电阻率20°C Volume resistivity	1.0 X10^{13} Ω·m	UL1581
原始抗张强度 Original tensile strength	≥2.1(Kgf/mm2)	UL1581
原始伸长率 Original elongation	≥150%	UL1581
老化后抗张残留率113°C±1°C 168Hrs Tensile residual rate after aging	≥100%	UL1581
老化后伸长残留率113°C±1°C 168Hrs Elongation residual rate after aging	≥80%	UL1581
热变形试验150°C±2°C 4Hrs 0.5KG Heat deformation test	≤50%	UL1581
燃烧试验VW-1 Combustion test	可通过VW-1标准 Can pass VW-1 standard	UL1581
低温湾曲试验 - 40±1°C 4H Low temperature bend test	无裂纹 No crack	UL1581
耐压试验 2000V AC 5min High-voltage holding test	不击穿 Non breakdown	UL1581
热冲击试验 150°C±1°C 1H Thermal shock test	无裂纹 No crack	UL1581
环境管理物质 Environmental management substance	N-16P、ROHS2.0、REACH、低烟低卤素 Low smoke and low halogen	SONY SS-00259
耐油：汽油、柴油、机油,温度125°C 240h 芯轴Φ16mm 卷绕4圈，耐压1kV, 1min Oil resistance: gasoline, diesel, oil, temperature 125°C 240h mandrel Φ16mm winding 4 times, pressure resistance 1kV, 1min	无裂纹, 不击穿 No crack、Non breakdown	QC/T 1037-2016 CQC1143
耐化学液体草酸（0.5mol/L),NaOH(1mol/L）23°C*168H 抗张强度±30% 伸长100%↑ Resistant to chemical liquid oxalic acid（0.5mol/L）NaOH(1mol/L）23°C*168H Tensile strength ±30% Elongation 100%↑	250%~300%	PPP58049A

SR-PVC半硬质胶料
SEMI-HARD RUBBER COMPOUND SEMI-HARD COMPOUND

加工温度 / PROCESSING TEMPERATURE

位置 Zone	1区 Z1	2区 Z2	3区 Z3	4区 Z4	机头模头 Head Die
温度°C Temp.	165±5	170±5	175±5	175±5	150±10

1. 如为获得更为理想的效果，可以提高加工温度,最高温度不宜超过210°C。
2. 最适宜的挤出温度还最终取决于用户挤出机的压缩比和长径比及螺杆结构等因素。

1. In order to obtain more ideal results, the processing temperature can be increased, and the maximum temperature should not exceed 210°C.
2. The optimum extrusion temperature also ultimately depends on the compression ratio and length-diameter ratio of the user's extruder and the screw structure and other factors.

包装、运输及贮存 / PACKAGE、TRANSPORT AND STORAGE

1. 应贮存在清洁、阴凉、干燥、通风的仓库内，如防潮失效，使用前须干燥，干燥温度70°C，时间至少0.5~1小时。

1. It should be stored in a clean, cool, dry and ventilated warehouse. If the moisture resistance fails, it must be dried before use, the drying temperature is 70°C, and the time is at least 0.5 to 1 hour.

90°C硅烷交联聚乙烯绝缘料(10kV及以下交联聚乙烯绝缘电缆用)

90°C SILANE CROSS-LINKED POLYETHYLENE INSULATING MATERIAL (FOR CROSS-LINKED POLYETHYLENE INSULATED CABLES UP TO 10KV)

加工工艺 / PROCESSING TECHNIC

产品特点性能： 该材料是由聚乙稀、硅烷、过氧化物、交联引发剂及加工助剂改性而合成，具有体积电阻率高、介电消耗小、耐热老化性能好、耐应力开裂性能好、易加工和价廉等特点，是一种非常优异的绝缘材料。主要应用于电力电缆、汽车线、电子线、安装线、布电线。

Product Features: The material is synthesized by modification of polyethylene, silane, peroxide, crosslinking initiator and processing aids, which has the features of high volume resistivity, small dielectric consumption, good heat aging resistance, good resistance to stress cracking, easy processing and inexpensive, etc. It is an excellent insulating material. It is mainly used in power cables, automobile wires, electronic wires, installation wires and cloth wires.

产品规格说明 / PRODUCT SPECIFICATION

项目名称Item		指标 Index	典型值 Typical Value	试验方法 Standard
外观 Appearance		色泽均匀，光滑	色泽均匀，光滑	QC/T 1037-2016
拉伸强度 Tensile Strength		≥ 10 MPa	13.9	GB/T1033.1 - 2008
断裂伸长率 Elongation at Break		150%	200	GB/T1033.1 - 2006
空气烘箱热老化 (100°C*168h) Air Oven Thermal Aging (100°C*168h)	拉伸强度最大变化率 Maximum rate of change of tensile strength	± 25%	8.8%	GB/T2951.12 - 2008
	断裂伸长率最大变化率 Maximum change in elongation at break	± 25%	-20%	
20°C时体积电阻率 Volume resistivity(20°C)		≥ $1.0*10^{12}$Ω·m	$8.0*10^{12}$Ω·m	GB/T1410 - 2006
125°C时体积电阻率 Volume resistivity(125°C)		≥ $2.0*10^{8}$ Ω·m	$2.0*10^{10}$Ω·m	GB/T1410 - 2006
介电强度 Dielectric strength		≥ 20 MV/m	38MV/m	GB/T1408.1 - 2006
冲击催化温度（-25°C）破裂数/试样数 Shock catalytic temperature（-25°C）Number of failures		≤ (15/30)	0/30	GB/T5470 - 2008
热延伸 thermal extension (200°C，0.2MPa, 15min)	负荷下伸长率 Elongation under load	≤ 100%	45%	GB/T2951.21 - 2008
	冷却后永久变形 Permanent deformation after cooling	≤ 25%	0	
氧指数 oxygen index		≥ 28%	30%	GB/T2406.2 - 2009
烟密度 smoke density	无焰 without flame	≤ 350	250	GB/T8323 - 1987
	有焰 flaming	≤ 100	60	
燃烧释放气体酸性 Combustion releases gaseous acidity	HCl和HBr含量 HCl and HBr content	≤ 0.5%	<0.5	GB/T17650.1 - 1998
	HF含量 HF content	≤ 0.1%	ND	GB/T17650.1 - 1998
	PH值 PH value	≥ 4.3	5.0	GB/T17650.2 - 1998
	电导率 conductivity	≤ 10 μs/mm	1.0	
毒性指数 toxicity index		≤ 5	2	

90°C硅烷交联聚乙烯绝缘料(10kV及以下交联聚乙烯绝缘电缆用)

90°C SILANE CROSS-LINKED POLYETHYLENE INSULATING MATERIAL (FOR CROSS-LINKED POLYETHYLENE INSULATED CABLES UP TO 10KV)

加工温度 / PROCESSING TEMPERATURE

位置 Zone	1区 Z1	2区 Z2	3区 Z3	4区 Z4	机头模头 Head Die
温度°C Temp.	100~105	135~145	150~165	170~175	155~165

1. 如为获得更为理想的效果，可以提高加工温度,最高温度不宜超过200°C。
2. 最适宜的挤出温度还最终取决于用户挤出机的压缩比和长径比及螺杆结构等因素。

1. In order to obtain more ideal results, the processing temperature can be increased, and the maximum temperature should not exceed 200°C.
2. The optimum extrusion temperature also ultimately depends on the compression ratio and length-diameter ratio of the user's extruder and the screw structure and other factors.

包装、运输及贮存 / PACKAGE、TRANSPORT AND STORAGE

1. 应贮存在清洁、阴凉、干燥、通风的仓库内。如防潮失效，使用前须干燥，干燥温度80°C, 时间至少1小时。

1. It should be stored in a clean, cool, dry and ventilated warehouse. If the moisture resistance fails, it must be dried before use, the drying temperature is 80°C, and the time is at least 0.5 to 1 hour.

105°C硅烷交联聚乙烯绝缘料(10kV及以下交联聚乙烯绝缘电缆用)

105°C SILANE CROSS-LINKED POLYETHYLENE INSULATING MATERIAL (FOR CROSS-LINKED POLYETHYLENE INSULATED CABLES UP TO 10KV)

加工工艺 / PROCESSING TECHNIC

产品特点性能： 该材料是由聚乙稀、硅烷、过氧化物、交联引发剂及加工助剂改性而合成，具有体积电阻率高、介电消耗小、耐热老化性能好、耐应力开裂性能好、易加工和价廉等特点，是一种非常优异的绝缘材料。主要应用于电力电缆、汽车线、电子线、安装线、布电线。

Product Features: The material is synthesized by modification of polyethylene, silane, peroxide, crosslinking initiator and processing aids, which has the features of high volume resistivity, small dielectric consumption, good heat aging resistance, good resistance to stress cracking, easy processing and inexpensive, etc. It is an excellent insulating material. It is mainly used in power cables, automobile wires, electronic wires, installation wires and cloth wires.

产品规格说明 / PRODUCT SPECIFICATION

项目名称Item		指标 Index	典型值 Typical Value	试验方法 Standard
外观 Appearance		色泽均匀，光滑	色泽均匀，光滑	QC/T 1037-2016
拉伸强度 Tensile Strength		≥ 10 MPa	13.9	GB/T1033.1 - 2008
断裂伸长率 Elongation at Break		150%	200	GB/T1033.1 - 2006
空气烘箱热老化 (136°C*168h) Air Oven Thermal Aging (136°C*168h)	拉伸强度最大变化率 Maximum rate of change of tensile strength	± 25%	8.8%	GB/T2951.12 - 2008
	断裂伸长率最大变化率 Maximum change in elongation at break	± 25%	-20%	
20°C时体积电阻率 Volume resistivity(20°C)		≥ $1.0*10^{12}\Omega\cdot m$	$8.0*10^{12}\Omega\cdot m$	GB/T1410 - 2006
125°C时体积电阻率 Volume resistivity(125°C)		≥ $2.0*10^{8}\Omega\cdot m$	$2.0*10^{10}\Omega\cdot m$	GB/T1410 - 2006
介电强度 Dielectric strength		≥ 20 MV/m	38 MV/m	GB/T1408.1 - 2006
冲击催化温度（-25°C）破裂数/试样数 Shock catalytic temperature（-25°C）Number of failures		≤ (15/30)	0/30	GB/T5470 - 2008
热延伸 thermal extension (200°C，0.2MPa, 15min)	负荷下伸长率 Elongation under load	≤ 100%	45%	GB/T2951.21 - 2008
	冷却后永久变形 Permanent deformation after cooling	≤ 25%	0	
氧指数 oxygen index		≥ 28%	30%	GB/T2406.2 - 2009
烟密度 smoke density	无焰 without flame	≤ 350	250	GB/T8323 - 1987
	有焰 flaming	≤ 100	60	
燃烧释放气体酸性 Combustion releases gaseous acidity	HCl和HBr含量 HCl and HBr content	≤ 0.5%	<0.5	GB/T17650.1 - 1998
	HF含量 HF content	≤ 0.1%	ND	GB/T17650.1 - 1998
	PH值 PH value	≥ 4.3	5.0	GB/T17650.2 - 1998
	电导率 conductivity	≤ 10 μs/mm ≤ 5	1.0	
毒性指数 toxicity index			2	

105°C硅烷交联聚乙烯绝缘料(10kV及以下交联聚乙烯绝缘电缆用)

105°C SILANE CROSS-LINKED POLYETHYLENE INSULATING MATERIAL (FOR CROSS-LINKED POLYETHYLENE INSULATED CABLES UP TO 10KV)

加工温度 / PROCESSING TEMPERATURE

位置 Zone	1区 Z1	2区 Z2	3区 Z3	4区 Z4	机头模头 Head Die
温度°C Temp.	100~105	135~145	150~165	170~175	155~165

1. 如为获得更为理想的效果，可以提高加工温度,最高温度不宜超过200°C。
2. 最适宜的挤出温度还最终取决于用户挤出机的压缩比和长径比及螺杆结构等因素。

1. In order to obtain more ideal results, the processing temperature can be increased, and the maximum temperature should not exceed 200°C.
2. The optimum extrusion temperature also ultimately depends on the compression ratio and length-diameter ratio of the user's extruder and the screw structure and other factors.

包装、运输及贮存 / PACKAGE、TRANSPORT AND STORAGE

1. 应贮存在清洁、阴凉、干燥、通风的仓库内。如防潮失效，使用前须干燥，干燥温度80°C, 时间至少1小时。

1. It should be stored in a clean, cool, dry and ventilated warehouse. If the moisture resistance fails, it must be dried before use, the drying temperature is 80°C, and the time is at least 0.5 to 1 hour.

125°C硅烷交联聚乙烯绝缘料(10kV及以下交联聚乙烯绝缘电缆用)

125°C SILANE CROSS-LINKED POLYETHYLENE INSULATING MATERIAL (FOR CROSS-LINKED POLYETHYLENE INSULATED CABLES UP TO 10KV)

加工工艺 / PROCESSING TECHNIC

产品特点性能： 该材料是由聚乙稀、硅烷、过氧化物、交联引发剂及加工助剂改性而合成，具有体积电阻率高、介电消耗小、耐热老化性能好、耐应力开裂性能好、易加工和价廉等特点，是一种非常优异的绝缘材料。主要应用于电力电缆、汽车线、电子线、安装线、布电线。

Product Features: The material is synthesized by modification of polyethylene, silane, peroxide, crosslinking initiator and processing aids, which has the features of high volume resistivity, small dielectric consumption, good heat aging resistance, good resistance to stress cracking, easy processing and inexpensive, etc. It is an excellent insulating material. It is mainly used in power cables, automobile wires, electronic wires, installation wires and cloth wires.

产品规格说明 / PRODUCT SPECIFICATION

项目名称Item		指标 Index	典型值 Typical Value	试验方法 Standard
外观 Appearance		色泽均匀，光滑	色泽均匀，光滑	QC/T 1037-2016
拉伸强度 Tensile Strength		≥ 10 MPa	13.9	GB/T1033.1 - 2008
断裂伸长率 Elongation at Break		150%	200	GB/T1033.1 - 2006
空气烘箱热老化 (158°C*168h) Air Oven Thermal Aging (158°C*168h)	拉伸强度最大变化率 Maximum rate of change of tensile strength	± 25%	8.8%	GB/T2951.12 - 2008
	断裂伸长率最大变化率 Maximum change in elongation at break	± 25%	-20%	
20°C时体积电阻率 Volume resistivity(20°C)		≥ $1.0*10^{12}\Omega\cdot m$	$8.0*10^{12}\Omega\cdot m$	GB/T1410 - 2006
125°C时体积电阻率 Volume resistivity(125°C)		≥ $2.0*10^{8}\Omega\cdot m$	$2.0*10^{10}\Omega\cdot m$	GB/T1410 - 2006
介电强度 Dielectric strength		≥ 20 MV/m	38 MV/m	GB/T1408.1 - 2006
冲击催化温度（-25°C）破裂数/试样数 Shock catalytic temperature（-25°C）Number of failures		≤ (15/30)	0/30	GB/T5470 - 2008
热延伸 thermal extension (200°C，0.2MPa, 15min)	负荷下伸长率 Elongation under load	≤ 100%	45%	GB/T2951.21 - 2008
	冷却后永久变形 Permanent deformation after cooling	≤ 25%	0	
氧指数 oxygen index		≥ 28%	30%	GB/T2406.2 - 2009
烟密度 smoke density	无焰 without flame	≤ 350	250	GB/T8323 - 1987
	有焰 flaming	≤ 100	60	
燃烧释放气体酸性 Combustion releases gaseous acidity	HCl和HBr含量 HCl and HBr content	≤ 0.5%	<0.5	GB/T17650.1 - 1998
	HF含量 HF content	≤ 0.1%	ND	GB/T17650.1 - 1998
	PH值 PH value	≥ 4.3	5.0	GB/T17650.2 - 1998
	电导率 conductivity	≤ 10 μs/mm	1.0	
毒性指数 toxicity index		≤ 5	2	

125°C硅烷交联聚乙烯绝缘料(10kV及以下交联聚乙烯绝缘电缆用)

125°C SILANE CROSS-LINKED POLYETHYLENE INSULATING MATERIAL (FOR CROSS-LINKED POLYETHYLENE INSULATED CABLES UP TO 10KV)

加工温度 / PROCESSING TEMPERATURE

位置 Zone	1区 Z1	2区 Z2	3区 Z3	4区 Z4	机头模头 Head Die
温度°C Temp.	100~105	135~145	150~165	170~175	155~165

1. 如为获得更为理想的效果，可以提高加工温度,最高温度不宜超过200°C。
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1. 应贮存在清洁、阴凉、干燥、通风的仓库内。如防潮失效，使用前须干燥，干燥温度80°C, 时间至少1小时。

1. It should be stored in a clean, cool, dry and ventilated warehouse. If the moisture resistance fails, it must be dried before use, the drying temperature is 80°C, and the time is at least 0.5 to 1 hour.