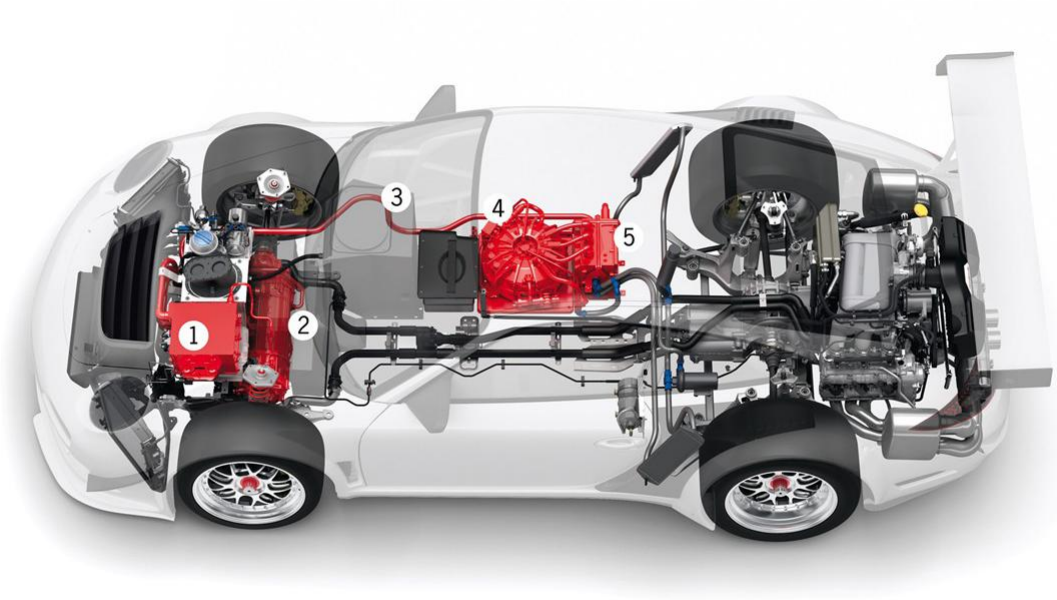
JDDTECH®

JDD New Energy Products Introduction

SHENZHEN JDDTECH NEW MATERIAL CO.,LTD

New energy protection sleeving

Application catogory of sleeving



- Abrasion resistance sleeving
- Flame retardant sleeving
- Electromagnetic shielding protection sleeving
- New energy protection sleeving (high voltage resistance)

The application and charactoristics of new energy sleeving

The application of new energy protection sleeving

The application of new energy wiring harness requires wear-resistant and impact-resistant components

Wiring harnesses,hoses,rigid tubes,cables
Cusomized low cost solution
Ideal substitute for aluminum corrugated conduite, metal tape and metal heat insulation board

Characteristics and advantages

-With excellent impact resistance, abrasion resistance, widely used for automotive wire harness, abrasion resistance of hoses and impact protection
-Easy to install, with tubular, self-closing and other structural
-Operating temperature up to 150°C
-Flammablity, environmental protection and halogen-free

New energy protection sleeving

SN	Product Name	JDD Model	Product pictures	Temperature Class	T1
1	Orange braided sleeving	FR1105		150℃	HG
2	Orange self-closing wrap	SCS2165		150℃	Aptiv
3	Double layer self-closing wrap	SCS2165D		150℃	Aptiv
4	Orange corrugated flexible conduit	PP：LG3305 PA：LG3215		PP：125℃ PA：150℃	YA DA
5	EMI shielding braided sleeving (PET+tinned copper)	FR1510 EMI		150℃	YU TONG

New energy protection sleeving production process

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Product process of new energy textile sleeving

- PET raw material slice and multifilament
  Global unified raw material supply
- Master material modification and core spinning technology
  Mechanical property
- Rolling
  Tension control
- High-speed textile machine
  Width:8-200mm
- Molding
  Temperature
- Hot cut
  Automatic feeding
- First article inspection, random inspection, shipment inspection, annual inspection
  Perfect quality control system
- Customize packages
  Custom labels

Product process of extrusion type new energy sleeving

- PP/PA slice
  Global unified raw material supply
- Master the core technology of material modification
  Material property
- Dry
  Temperature
- Continuous extrusion
  Dimensions and appearance
- Automatic cutting
  Automatic feeding
- First article inspection, random inspection, shipment inspection, annual inspection
  Perfect quality control system
- Customize packages
  Custom labels

FR1105 (Orange braided sleeving)

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Product composition and characteristics

- Made of high performance PET monofilament, halogen-free, no harmful substances
- Operating temperature-40℃-150℃
- Excellent abrasion resistance and heat resistance
- Closed design, expandable to 3 times its own diameter , easy to install
- Norminal range： 2-60mm

Application

- Wire harnes, rubber hose

Application OEM: BYD、BAIC BJEV、

Performance benchmarking and data			
Test items	**Standard**	**Test method/judgment result**	**JDD test result**
Long-term thermal aging	ISO188 GMW14327	150℃/504H After the constant temperature test, treat it for 16 hours under the conditions of 23±2℃and 50±5% RH; at a constant speed, once every 10 seconds, wind the sample on a mandrel with a diameter equal to four times the nominal diameter of the sample for testing, and confirm that the sample is not cracked or brittle Phenomenon.	No cracking or embrittlement
	SAE J2192	150℃/3000H constant temperature test, every 500h test, take out 5 samples from the oven and treat them at 23±2℃ and 50±5%RH for 4 hours; at a constant speed, wrap the samples around every 10 seconds Test on a mandrel with a diameter equal to four times the nominal diameter of the sample to confirm whether the sample has embrittlement or fracture	No embrittlement or fracture
Accelerated thermal aging	IS0 188-B	After the constant temperature test at 175℃/240 H, the samples were treated at 23±2℃ and 50± 5% RH for 16 hours.At a constant rate of one turn every 10 seconds, the sample is wound on the mandle-axis with a diameter equal to four times the nominal diameter of the sample to verify whether the sample has brittle crack or fracture phenomenon	No embrittlement or fracture

FR1105 (Orange braided sleeving)

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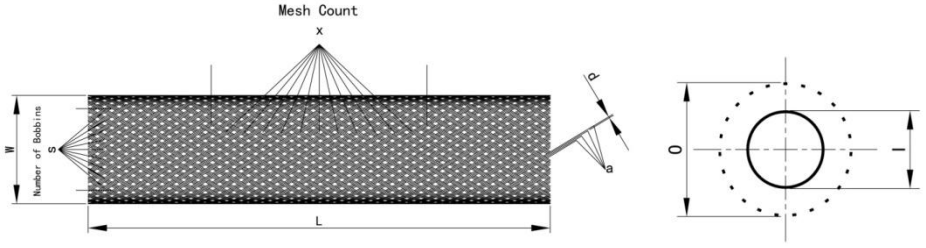
Performance benchmarking and data			
Test items	**Standard**	**Test method/judgment result**	**JDD test result**
Abrasion resistance	ISO6722-1	Load 7N, 0.4mm piano wire, 13mm core rod, and determine the abrasion resistance level according to the OEM standard	GMW14327 ≥4 Class (10000)
	SAE ARP 1536B	Load 11N,13mm metal grinding head,13mm mandrel, according to the OEM standard to determine the abrasion grade	≥3 Class (200000)
Liquid resistance	GMW14327	Put the product in contact with the liquid in the automobile engine room for 5 minutes at room temperature, and then wrap it on a 4-fold mandrel after 20 minutes. Observe that the sample does not crack or delamination	No cracking and delamination
Flammability	UL94	V0 Class	Pass
	FMV SS302	< 100 mm/min	self-extinguishing
Low temperature flexibility	SAE J2192	After - 40 ℃ / 4 h testing, keep the same testing environment winding the test sample 360°on a 4 times diameter(on the basis of sample diameter) mandrel,every 10 s winding a circle, visual check samples no cracking or degradation, no delamination of adhesive	No cracking and delamination

FR1105 (Orange braided sleeving)



Product Dimensions					
Model	Flat width (W)		Expanded range		Packaging (L) m/roll
	inch	mm	Min. (I)	Max. (O)	
003	1/8 "	3	1	6	1000
006	1/4"	6	3	9	500
008	5/16"	8	5	12	350
010	3/8"	10	7	17	350
012	1/2"	12	8	20	300
016	5/8"	16	10	27	250
019	3/4"	19	14	30	200
025	1"	25	18	33	200
032	1-1/4"	32	20	50	150
038	1-1/2"	38	30	60	100
045	1-3/4"	45	35	75	100
050	2"	50	40	80	100
064	2-1/2"	64	45	105	100
076	3"	76	64	120	100

Auto SCS2165 (Orange self-closing wrap)

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Product composition and characteristics

- It is woven from polyester monofilament and polyester multifilament in warp and weft direction, environmentally friendly and halogen-free。
- Operating temperature -40℃-150℃
- Lightweight, dust-proof, wear-resistant, orange unique design is easy to identify high pressure
- Open structure design is easy to install。
- ID：5-38mm，overlap 25%

Application

- Automotive wiring harness terminals, connectors, etc.
- Application OEM:VOLVO、GAC、BYD、CATL、JONHON、SAIC、Nissan

Performance benchmarking and data			
Test items	**Standard**	**Test method/judgment result**	**JDD test result**
Long-term thermal aging	ISO188 GMW14327	150℃/504H After the constant temperature test, treat it for 16 hours under the conditions of 23±2℃and 50±5% RH; at a constant speed, once every 10 seconds, wind the sample on a mandrel with a diameter equal to four times the nominal diameter of the sample for testing, and confirm that the sample is not cracked or brittle Phenomenon.	No cracking or embrittlement
	SAE J2192	150℃/3000H constant temperature test, every 500h test, take out 5 samples from the oven and treat them at 23±2℃ and 50±5%RH for 4 hours; at a constant speed, wrap the samples around every 10 seconds Test on a mandrel with a diameter equal to four times the nominal diameter of the sample to confirm whether the sample has embrittlement or fracture;	No embrittlement or fracture
Accelerated thermal aging	IS0 188	After the constant temperature test at 175℃/240 H, the samples were treated at 23±2℃ and 50± 5% RH for 16 hours.At a constant rate of one turn every 10 seconds, the sample is wound on the mandle-axis with a diameter equal to four times the nominal diameter of the sample to verify whether the sample has brittle crack or fracture phenomenon	No embrittlement or fracture

Auto SCS2165 (Orange self-closing wrap)

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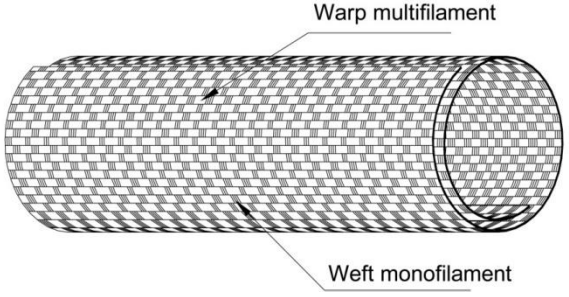
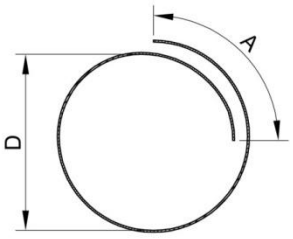
Performance benchmarking and data			
Test items	**Standard**	**Test method/judgment result**	**JDD test result**
Abrasion resistance	ISO6722-1	Load 7N, 0.4mm piano wire, 13mm core rod, and determine the abrasion resistance level according to the OEM standard	GMW14327 ≥3Class (3000)
	SAE ARP 1536B	Load 11N,13mm metal grinding head,13mm mandrel, according to the OEM standard to determine the abrasion grade	≥3 Class (200000)
Liquid resistance	GMW14327	Put the product in contact with the liquid in the automobile engine room for 5 minutes at room temperature, and then wrap it on a 4-fold mandrel after 20 minutes. Observe that the sample does not crack or delamination	No cracking and delamination
Flammability	UL94	V0 Class	Pass
	FMV SS302	< 100 mm/min	self-extinguishing
Low temperature flexibility	SAE J2192	After - 40 ℃ / 4 h testing, keep the same testing environment winding the test sample 360°on a 4 times diameter(on the basis of sample diameter) mandrel,every 10 s winding a circle, visual check samples no cracking or degradation, no delamination of adhesive	No cracking and delamination

Auto SCS2165 (Orange self closing wrap)





Product size specification				
P/N	ID D(mm)	Expanded width☆(mm)	Max bundle dia (mm)	Overlap A (°)
SCS2165-005	5	25±4	6	90°+40°/-25°
SCS2165-008	8	40±4	9	
SCS2165-010	10	45±4	11	
SCS2165-013	13	60±6	14	
SCS2165-016	16	70±6	17	
SCS2165-019	19	85±6	20	90°±20°
SCS2165-025	25	105±8	26	
SCS2165-029	29	120±8	30	
SCS2165-032	32	135±8	33	
SCS2165-038	38	160±8	40	

SCS2160D (Double layer self-closing wrap)

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Product composition and features

- Made of polyester monofilament and polyester multi-filaments and woven in the direction of warp and weft, environment-friendly and halogen-free.
- Operating temperature: -40℃ to 150℃.
- With excellent impact resistance, abrasion resistance, widely used for automotive wiring harness,
- Abrasion resistance and impact resistance protection for rubber hose.
- The structural design of the opening is easy to install.
- Inside diameter：8-32mm，overlap:25%

Typical applications

- Automotive wire harness terminal ,splice

Application OEM: VOLVO、Dongfeng Nissan, GAC

Performance benchmarking and data			
Test Items	**Test Standard**	**Test Methods/Determination Result**	**JDD Test Result**
Long term heat ageing	ISO188 GMW14327	After constant temperature test at 150℃ for 504H, it is conditioned at 23±2℃ and 50± 5% RH for 16 hours.At a unifrom speed of one turn per 10 seconds, the sample is wrapped around a mandrel whose diameter equal to 4 times the nominal diameter of the sample. Check the sample any signs of cracking or embrittlement.	No embrittlement, no cracking
	SAE J2192	150℃/3000H constant temperature test, every 500h test, take out 5 samples from the oven and treat them at 23±2℃ and 50±5%RH for 4 hours; at a constant speed, wrap the samples around every 10 seconds Test on a mandrel with a diameter equal to four times the nominal diameter of the sample to confirm whether the sample has embrittlement or fracture	No embrittlement, no cracking

SCS2160D (Double layer self-closing wrap)

JDDTECH®

Performance benchmarking and data			
Test items	**Standard**	**Test method/judgment result**	**JDD test result**
Accelerated thermal aging	IS0 188	After the constant temperature test at 175℃/240 H, the samples were treated at 23±2℃ and 50± 5% RH for 16 hours.At a constant rate of one turn every 10 seconds, the sample is wound on the mandle-axis with a diameter equal to four times the nominal diameter of the sample to verify whether the sample has brittle crack or fracture phenomenon	No embrittlement or fracture
Abrasion resistance	ISO6722-1	Load 7N, 0.4mm piano wire, 13mm core rod, and determine the abrasion resistance level according to the OEM standard	GMW14327 ≥8 Class (200000)
	SAE ARP 1536B	Load 11N,13mm metal grinding head,13mm mandrel, according to the OEM standard to determine the abrasion grade	≥E Class (1 million)
Drop test	LV312-3	Single wire	E (50 J) No short circuit > 10 ms
		Shielded wire	C (15 J) No short circuit > 10 ms

SCS2160D（Double layer self-closing wrap ）

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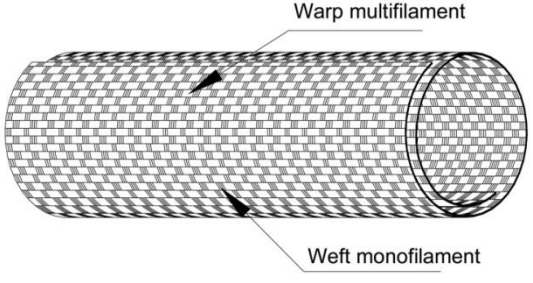
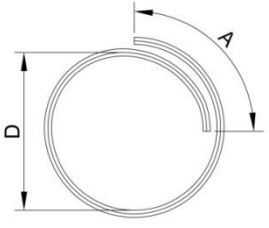
Performance benchmarking and data			
Test items	**Standard**	**Test method/judgment result**	**JDD test result**
Impact resistance	LV312-3	At room temperature 23℃，1500g impact ，No visual cracks or damages allowed	PASS
	LV312-3	At low temperature -40℃，700g impact，No visual cracks or damages allowed	PASS
Fluid Resistance	GMW14327	Put the product in contact with the liquid in the automobile engine room for 5 minutes at room temperature, and then wrap it on a 4-fold mandrel after 20 minutes. Observe that the sample does not crack or delamination	No cracking and delamination
Flabmmability	UL94	Class V0	Pass
	FMV SS302	< 100 mm/min	Self-extinguish
Low temperature flexibility	SAE J2192	After - 40 ℃ / 4 h testing, keep the same testing environment winding the test sample 360°on a 4 times diameter(on the basis of sample diameter) mandrel,every 10 s winding a circle, visual check samples no cracking or degradation, no delamination of adhesive	No cracking and delamination

SCS2160D (Double layer self-closing wrap)





Product Dimensions				
Model	Nominal inside diameter D (mm)	Function inside diameter D (mm)	Wall Thickness (mm)	Overlap (°)
SCS2169D-08	8	6 ~ 8	2.0±0.25	90+45/-25
SCS2169D-10	10	8-10		90+45/-25
SCS2169D-13	13	10-14		90+45/-25
SCS2169D-16	16	14-17		90+45/-25
SCS2169D-19	19	17-19		90±20
SCS2169D-25	25	19-25		90±20
SCS2169D-29	29	25-29		90±20

LG3215 (PA orange corrugate flexible conduit)

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Product composition and features

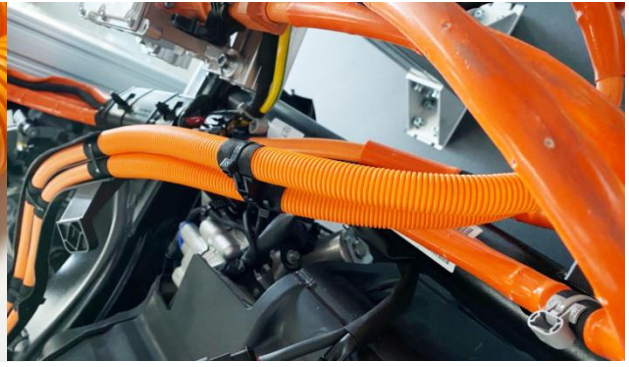
- Extruded by PA material, molding, environmental protection, halogen-free, no hazardous substances.
- Working temperature:-40℃ to 150℃
- Flexibility, bendability , acid resistance, abrasion resistance.
- Protect wiring harness, wires,cables, etc.
- Inside diameter：4.8-48mm

Typical Application

- Wire harnesses,mechanical,electronic

Application Performance

◆Honda, JONHON, Changan, BAIC, SAIC, Yutong



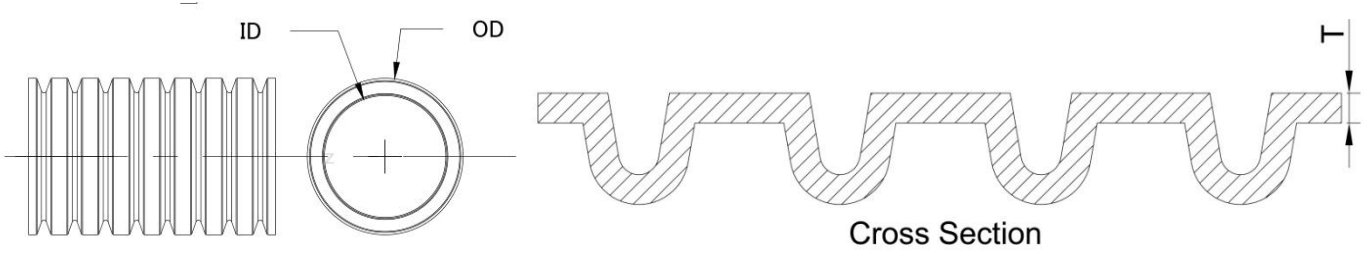
Performance benchmarking and data			
Test items	**Standard**	**Test method/judgment result**	**JDD test result**
Long term heat ageing	ISO188 GMW14327	After 150℃/3000H constant temperature test, treat at 23±2℃ and 50±5%RH for 4 hours; wind the sample on a mandrel with a diameter equal to four times the nominal diameter of the sample every 10 seconds at a constant speed Test to confirm that the sample has no cracking or embrittlement phenomenon;	No cracking or embrittlement
	QC/T29106	After 150℃/3000 H constant temperature test, confirm whether the sample has embrittlement or fracture	No embrittlement or fracture
Accelerated heat ageing	QC/T29106	After the constant temperature test at 175℃/240 H, the appearance of the sample is confirmed to be brittle or fractured	No embrittlement or fracture

LG3215 (PA orange corrugate flexible conduit)

JDDTECH®

Test items	Standard	Test method/judgment result	JDD test result
Abrasion Resistance	ISO6722-1	Sandpaper abrasion: load 0.63N, 150J sandpaper belt, confirm the stroke of the sandpaper belt when the sample is worn out	> 2800mm
		Needle grinding Scrape abrasion: load 7N, 0.4mm piano wire, 13mm mandrel, rotate 45 degrees, confirm the wear resistance level according to the host standard	GMW14327 ≥6Class (50000)
Liquid resistance	GMW14327	Put the product in contact with the liquid in the automobile engine room for 5 minutes at room temperature, and then wrap it on a 4-fold mandrel after 20 minutes. Observe that the sample does not crack or delamination	No cracking and delamination
Flammbility	UL94&GB / T2408	Class V0	Pass
	FMV SS302	< 100 mm/min	Self-extinguish
Low temperature flexibility	QC/T29106	After testing the hollow corrugated flexible conduit at -40℃/4H, wind it on a 4-fold mandrel and observe that the sample has no cracking or delamination	No cracking and delamination
Low temperature impact	QC/T29106	Fill up to 75% of the corrugated flexible conduit sample assembly with PVC wire. After testing at -40℃/4H, under the condition of -40℃, 300g steel balls fall freely from a height of 100mm to impact the sample assembly, and observe whether the sample is cracked or broken	No cracks or breaks

LG3215 (PA orange corrugate flexible conduit)

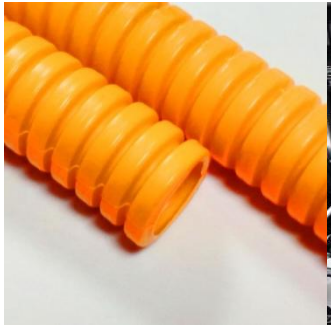


Product dimensions				
Model	Inside diameter (ID)mm	Outside diameter (OD)mm	Wall Thickness (T) mm	Packaging (M/Roll)
Φ5	5.5±0.3	8.5±0.3	0.25±0.05	200
Φ7	7.0±0.3	10.0±0.3	0.27±0.05	200
Φ8	8.5±0.3	11.0±0.3	0.30±0.05	200
Φ10	10.0±0.3	13.0±0.3	0.30±0.05	100
Φ12	12.0±0.4	15.8±0.4	0.30±0.05	100
Φ14	14.5±0.4	18.5±0.4	0.32±0.05	100
Φ17	17.0±0.4	21.2±0.4	0.32±0.05	100
Φ21	21.0±0.4	25.0±0.4	0.35±0.05	100
Φ23	23.0±0.4	28.5±0.4	0.35±0.05	50
Φ29	29.0±0.4	34.5±0.4	0.40±0.05	50
Φ36	36.0±0.4	42.5±0.4	0.45±0.05	25
Φ48	48.0±0.4	54.5±0.4	0.50±0.05	25

LG3305 (PP orange corrugate flexible conduit)

Product compsition and characteristics

- Extrusion from PP material, molding, environmental protection, halogen-free, no hazardous substances.
- Working Temperature :-40℃ to 125℃
- Flexibility, bendability, acid resistance, abrasion resistance.
- Protect wire hareness, wire ,cables
- Inside Diameter：4.8-48mm



Typical Application

- Wire harness, mechanical, eletronics.

Application performance

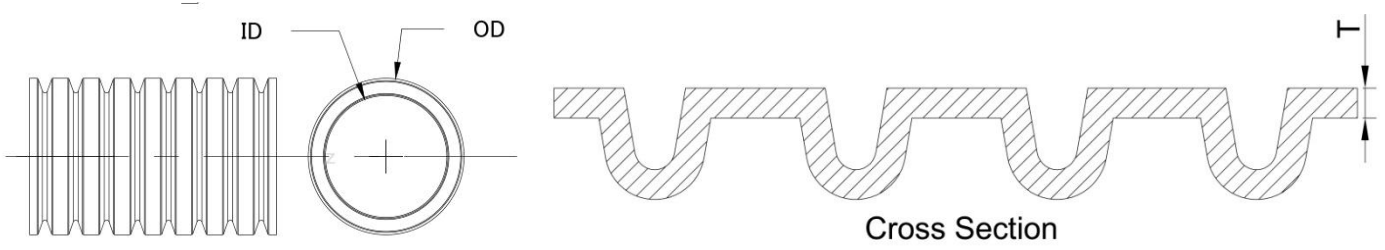
◆Honda, CATL, Yutong, CRRC, JONHON

Performance benchmarking and data			
Test items	**Standard**	**Test method/judgment result**	**JDD test result**
Long term heat ageing	ISO188 GMW15926	After 125°C/3000H constant temperature test, treat at 23±2°C and 50±5%RH for 4 hours; wind the sample on a mandrel with a diameter equal to four times the nominal diameter of the sample at a constant speed every 10 seconds Test to confirm that the sample has no cracking or embrittlement phenomenon;	No cracking or embrittlement
	QC/T29106	After 125℃/3000 H constant temperature test, confirm whether the sample has embrittlement or fracture	No embrittlement or fracture
Accelerated heat ageing	QC/T29106	After the constant temperature test at 150℃/240 H, the appearance of the sample is confirmed to be brittle or fractured	No embrittlement or fracture

LG3305 (PP orange corrugate flexible conduit)

Performance benchmarking and data			
Test items	**Standard**	**Test method/judgment result**	**JDD test result**
Abrasion Resistance	ISO6722-1	Sandpaper abrasion: load 0.63N, 150J sandpaper belt, confirm the stroke of the sandpaper belt when the sample is worn out	> 2000mm
		Needle grinding Scrape abrasion: load 7N, 0.4mm piano wire, 13mm mandrel, rotate 45 degrees, confirm the wear resistance level according to the host standard	GMW14327 ≥5Class (15000)
Fluid Resistance	GMW14327	Put the product in contact with the liquid in the automobile engine room for 5 minutes at room temperature, and then wrap it on a 4-fold mandrel after 20 minutes. Observe that the sample does not crack or delamination	No signs of cracking or delamination
Flammability	UL94&GB / T2408	Class V0	Pass
	FMV SS302	< 100 mm/min	Self-extinguish
Cold flexibility	QC/T29106	After testing the hollow corrugated flexible conduit at -40℃/4H, wind it on a 4-fold mandrel and observe that the sample has no cracking or delamination	No signs of cracking or delamination .
Low temperature impact	QC/T29106	Fill up to 75% of the corrugated flexible conduit sample assembly with PVC wire. After testing at -40℃/4H, under the condition of -40℃, 300g steel balls fall freely from a height of 100mm to impact the sample assembly, and observe whether the sample is cracked or broken	No signs of cracking or delamination

LG3305 (PP orange corrugate flexible conduit)



Product Dimensions				
Model	Inside Diameter(ID)mm	Outside Diameter (OD)mm	Wall Thickness (T) mm	Packaging (M/Roll)
Φ5	5.5±0.3	8.5±0.3	0.25±0.05	200
Φ7	7.0±0.3	10.0±0.3	0.27±0.05	200
Φ8	8.5±0.3	11.0±0.3	0.30±0.05	200
Φ10	10.0±0.3	13.0±0.3	0.30±0.05	100
Φ12	12.0±0.4	15.8±0.4	0.30±0.05	100
Φ14	14.5±0.4	18.5±0.4	0.32±0.05	100
Φ17	17.0±0.4	21.2±0.4	0.32±0.05	100
Φ21	21.0±0.4	25.0±0.4	0.35±0.05	100
Φ23	23.0±0.4	28.5±0.4	0.35±0.05	50
Φ29	29.0±0.4	34.5±0.4	0.40±0.05	50
Φ36	36.0±0.4	42.5±0.4	0.45±0.05	25
Φ48	48.0±0.4	54.5±0.4	0.50±0.05	25

FR1145 EMI（ EMI shielding braided sleeving ）

JDDTECH®

Product composition and characteristics

- Braided of tinned copper wire + orange PET monofilament.
- Working temperature :-40℃ to 150℃。
- Exellent shielding effectiveness and conductivity.
- Easy to install，flexibility,high temperature resistance,chemical resistance,good cold and hot impact and son on.
- Inside diameter：3-64mm
- **Typical Application**
- Automotive wire harness
- **Application performance**
- BYD, Yutong

Performance benchmarking and data			
Test items	Standard	Test method/judgment result	JDD test result
Long-term thermal aging	SAE J2192	150℃/3000H constant temperature test, every 500h test, take out 5 samples from the oven and treat them at 23±2℃ and 50±5%RH for 4 hours; at a constant speed, wrap the samples around every 10 seconds Test on a mandrel with a diameter equal to four times the nominal diameter of the sample to confirm whether the sample has embrittlement or fracture	No embrittlement or fracture
Accelerated heat ageing	IS0 188 method B	After the constant temperature test at 175℃/240 H, the samples were treated at 23±2℃ and 50± 5% RH for 16 hours.At a constant rate of one turn every 10 seconds, the sample is wound on the mandle-axis with a diameter equal to four times the nominal diameter of the sample to verify whether the sample has brittle crack or fracture phenomenon	No embrittlement or fracture

FR1145 EMI（ EMI shielding braided sleeving ）

Performance benchmarking and data			
Test items	**Standard**	**Test method/judgment result**	**JDD test result**
Salt spray test	IEC-60068-2-52	Salt solution concentration:50±5g/l NaCl，the temperature in test chamber is 35±2℃. After circular test per standard required condtion, the sample has no sign of corrosion.	PASS
Shielding effectiveness	GB/T 30142	Plane material shielding effectiveness detection, 30MHZ~1GHZ frequency band detection, results are for reference	90dB~50dB
Chemical Resistance	SAE J2192	After testing with liquids such as engine oil, gasoline, ethanol, diesel, power steering fluid, automobile transmission fluid, engine coolant, brake fluid, battery acid, urea solution, etc., there is no embrittlement, fracture, or other forms of degradation or loss of flexibility	PASS
Low temperature flexibility	SAE J2192	After - 40 ℃ / 4 h testing, keep the same testing environment winding the test sample 360°on a 4 times diameter(on the basis of sample diameter) mandrel,every 10 s winding a circle, visual check samples no cracking or degradation, no delamination of adhesive	No cracking and delamination

THANK YOU

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