



Changyuan Electronics (Dongguan) Co., Ltd.

Product Specification

Product Name	Heat Shrink Breakout	Supplier Code	
Specification	All Specifications	Customer Code	

Supplier Approval (Changyuan Electronics (Dongguan) Co., Ltd.)

Drafted/Date	Verified/Date
Wei Wei/June 1, 2020	Hu Jun/June 1, 2020

Customer Approval

Customer Approval /Date		
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1. Scope

This approval specifies technical requirement, package, storage and specification of the heat shrink breakouts.

2. Standards

ASTM-D-638 (GB/T 1040)

Standard test methods for tensile properties of plastics

IEC 60243 (GB/T 1408)

Electrical strength of insulating materials-Test methods

IEC 60093 (GB/T 1410)

Methods of test for volume resistivity and surface resistivity of solid electrical insulating materials

ISO 974 (GB/T 5470)

Plastics-Determination of the brittleness temperature by impact

ISO 868(GB/T 2411)

Plastics and ebonite-Determination of indentation hardness by means of a durometer (Shore hardness)

ISO 62(GB/T 1034)

Plastics-Determination of water absorption

3. Technical requirements

3.1 Product properties

CYG heat shrink breakouts are made of cross-linked polyolefin. It can provide mechanical protection and strain relief over multi-core cable crutch. The heat shrink breakouts have an adhesive coating on the body and the fingers to form a durable watertight seal, and conform tightly to cable jackets.

Standard color: Black.

3.2 Appearance

The surface of the heat shrink breakouts should be smooth and clean, and free of pinholes or cracks visible to the unaided eye.

3.3 Heat shrink properties

Start to shrink at 90°C, and fully recovered at 130°C

Radial shrink ratio: $\geq 50\%$

Wall thickness non-uniformity: $\leq 35\%$.

3.4 Physical and chemical properties: See Table 1.

3.5 Product specification: See Table 2.

4. Package, Transportation and Storage

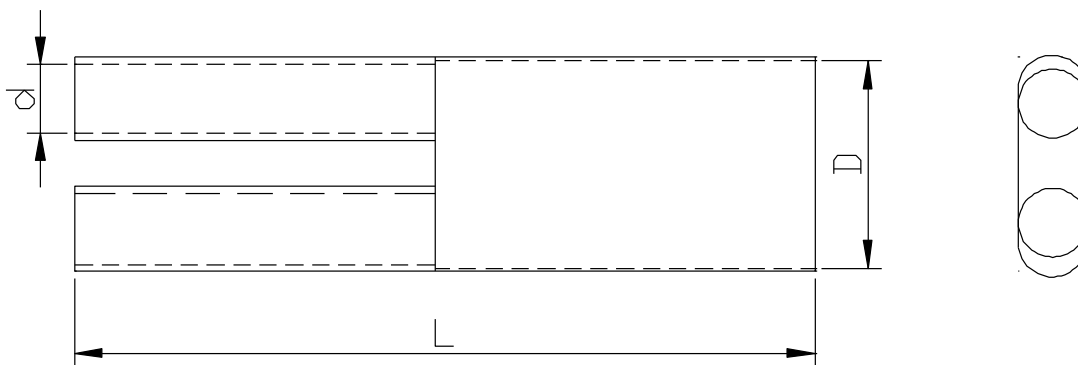
4.1 Products can be packed according to customer's requirement.

4.2 These products are non-hazardous. Keep in clean, cool, dry, well-ventilated storage area. During transportation and storage, pay attention to rain and sun and keep away from sources of ignition.

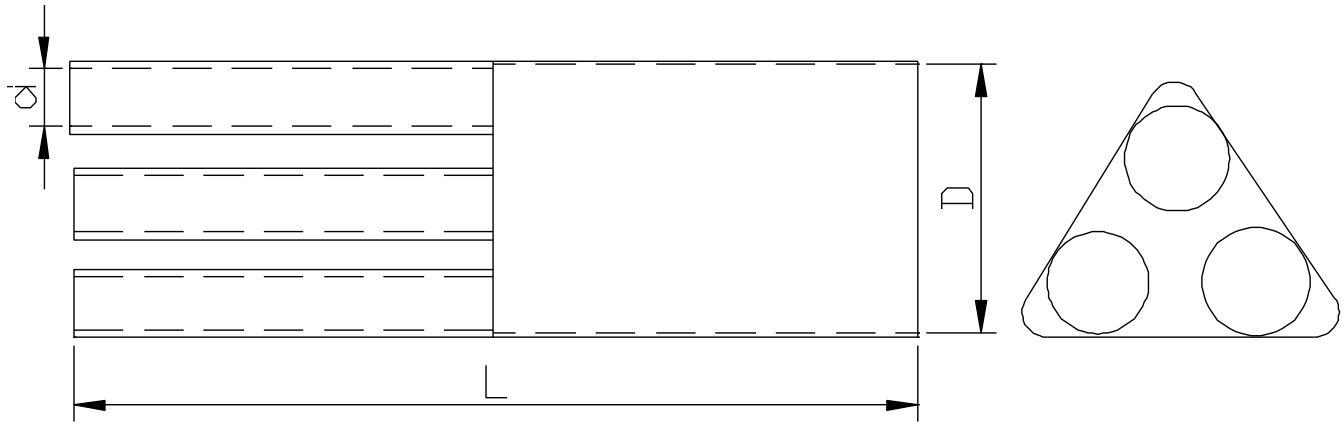
Table 1. Technical Data

Property	Test Method	Standard Value
Tensile Strength	ASTM-D-638	$\geq 12\text{MPa}$
Elongation at Break	ASTM-D-638	$\geq 300\%$
Volume Resistivity	IEC 60093	$\geq 1 \times 10^{13} \Omega \cdot \text{cm}$
Dielectric Strength	IEC 60243	$\geq 15\text{kV/mm}$
Brittle Temperature	ISO 974	-40°C
Heat Shock	160°C , 4h	No Crack
Water Absorption (23 ± 2) $^\circ\text{C}$ 24h	ISO 62	$\leq 0.1\%$
Hardness (Shore A)	ISO 868	≥ 80

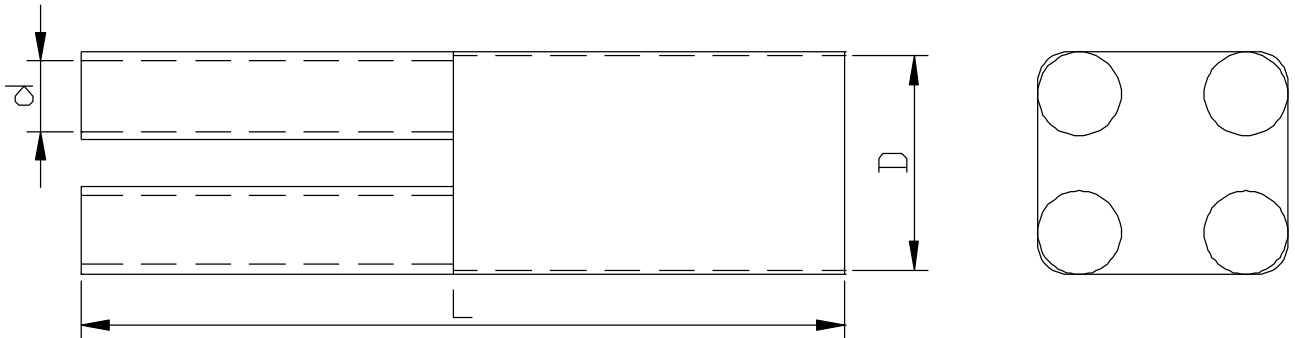
Table 2. Product Specification



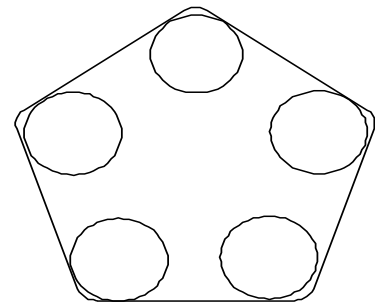
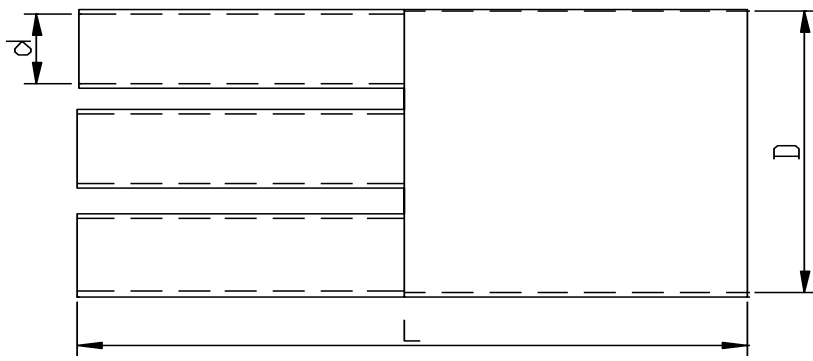
Spec.	As Supplied (mm)			After Recovered (mm)		
	Body Diameter (D) Min	Finger Diameter (d) Min	Full Length (L) (± 5)	Body Diameter (D) Max	Finger Diameter (d) Max	
2-cores Breakout	0#	24	12	140	14	5
	1#	38	20	145	18	7
	2#	45	25	145	22	10
	3#	60	35	140	25	11
	4#	70	40	140	25	11



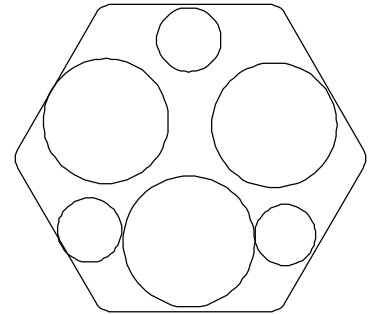
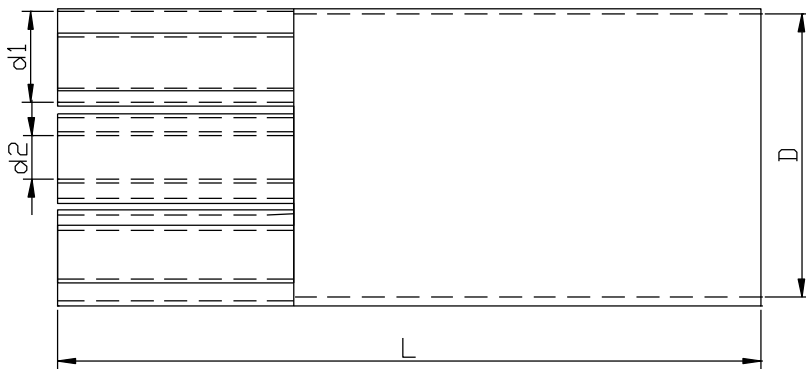
Spec.		As Supplied (mm)			After Recovered (mm)	
		Body Diameter (D) Min	Finger Diameter (d) Min	Full Length (L) (± 5)	Body Diameter (D) Max	Finger Diameter (d) Max
3-cores Breakout	-2#	24	11	140	17	5
	-1#	48	18	165	22	7
	0#	58	25	180	28	8
	1#	68	30	210	37	13
	2#	87	39	220	43	16
	3#	106	42	235	53	19
	4#	125	58	245	65	25
	5#	140	65	245	65	25



Spec.		As Supplied (mm)			After Recovered (mm)	
		Body Diameter (D) Min	Finger Diameter (d) Min	Full Length (L) (± 5)	Body Diameter (D) Max	Finger Diameter (d) Max
4-Cores Breakout	0#	38	10	125	19	5
	1#	50	16	135	25	7
	2#	70	23	185	32	10
	3#	82	30	210	46	13
	4#	90	35	210	46	13
	5#	109	42	240	54	18



Spec.		As Supplied (mm)			After Recovered (mm)	
		Body Diameter (D) Min	Finger Diameter (d) Min	Full Length (L) (±5)	Body Diameter (D) Max	Finger Diameter (d) Max
5-Cores Breakout	0#	42	11	130	21	5
	1#	57	15	170	30	7
	2#	70	23	170	38	9
	3#	90	30	180	53	13
	4#	120	39	205	48	14



Spec.		As supplied/mm				After recovered/mm		
		Body Diameter (D) Min	Big Finger Diameter (d1) Min	Small Finger Diameter (d2) Min	Full Length (L) (±5)	Body Diameter (D) Max	Big Finger Diameter (d1) Max	Small Finger Diameter (d2) Max
6-Cores Breakout	1#	84	30	20	215	41	11	8
	2#	132	55	31	225	53	16	11