CHARDON

PRODUCT GUIDE

MEDIUM VOLTAGE CABLE ACCESSORIES

IEC & ANSI/IEEE separable connectors · cold shrink · distribution equipment

VOLTAGE	RATED CURRENT	STANDARDS
12 – 72 kV	200 – 1250 A	IEC · IEEE

FOCUS
36 kV · 630 A
Front & Rear T-Bodies













TERMINATIONS · IEC T-BODIES · FRONT T & IEEE ELBOWS · ARRESTERS & INSERTS

IEC / CENELEC · IEEE 386 · IEEE 48 · IEEE C119

www.3b-energy.com

PRODUCTS BY CHARDON GROUP



About us

The Chardon Group was established in Taiwan in 1993 to supply EPDM molded cable accessories to Taiwan Power Company. Starting from technology originally licensed from the United States, Chardon grew rapidly and is today the **third largest manufacturer of IEEE/ANSI cable accessories in the world**. With the addition of IEC cable accessories, Chardon products are installed on utility systems worldwide.

Chardon is one of the few cable accessory manufacturers that **compound their own EPDM rubber in house**. All formulations in use were developed by Chardon and have been approved by its OEM customers for use in their own products. Chardon is the only non-US manufacturer whose products are present on virtually every utility distribution system in the United States, through its OEM and private-label customers.

1993
Founded in Taiwan

#3
IEEE/ANSI cable accessory manufacturer worldwide

40+
700-ton screw ram injection presses

4
Production countries: Taiwan · China · Mexico · Brazil

3B Energy is active in the whole world of power transmission and distribution and supports the customer through engineering, purchasing, supply and after-sales service. Together with Chardon, 3B Energy offers a complete range of cable accessories as a single partner for the whole plant.





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REFERENCE

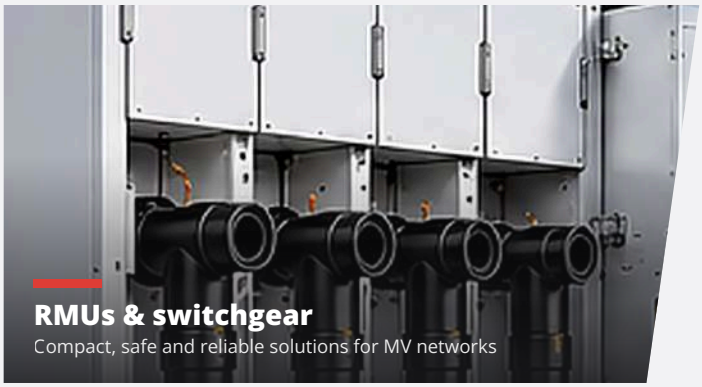
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FROM UNDERGROUND NETWORKS TO RENEWABLES

Reliable connections for a sustainable energy future

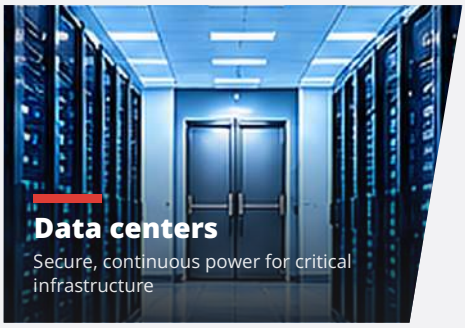
From underground distribution networks and RMUs to data centers, solar parks and wind farms, Chardon medium-voltage cable accessories provide reliable, safe and durable connections.



RMUs & switchgear
Compact, safe and reliable solutions for MV networks



Underground distribution networks
Reliable and durable connections for modern grids



Data centers
Secure, continuous power for critical infrastructure



Solar parks
Powering renewable energy generation



Wind farms
Robust solutions for clean energy transmission

KEY PRODUCTS FOR THESE APPLICATIONS



630 A, 1250 A T-body
up to 36 kV (wide range)



42 kV, 630 A front T-body
42-FDT630 / 42-RDT630



42 kV, 1250 A front & rear
42-FDT1250 / 42-RDT1250



51 / 72 kV coupling T arrester
51-RDTA134 / 72-RDTA134



36 kV 630 A jumpers
for RMUs and other applications



Terminations
indoor and outdoor · up to 72 kV



Complete range up to 72 kV
bushings, connectors, elbows, arrester solutions and more

RELIABILITY
Proven performance in demanding applications

IEC COMPLIANCE
Designed to international standards

SUSTAINABILITY
Supporting renewable, low-carbon energy

WIDE APPLICATIONS
Networks, RMUs, data centers, solar, wind

PARTNER FOR GROWTH
Utilities, EPCs, contractors, distributors

FOCUS · IEC INTERFACE C

36 kV · 630 A

Front & Rear T-Bodies

Separable, fully screened T-connectors for 36 kV networks – the key product for secondary distribution, RMUs and renewable energy plants in Europe.

UM	IR	INTERFACE
36 kV	630 A	Type C



FRONT T-BODY



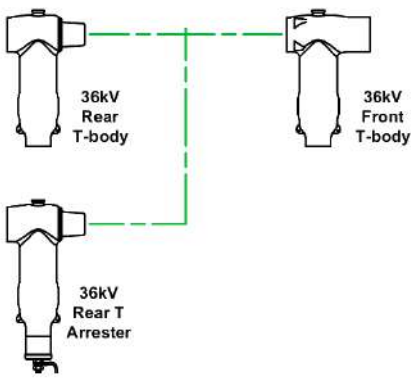
REAR T-BODY

01 WHY IT MATTERS
Built for European MV networks

- Designed for **36 kV networks**: secondary distribution and wind and solar collector systems.
- **630 A bolted connection** to type C bushings on RMUs, switchgear and transformers.
- **Front + rear combination**: two cables on one bushing, or surge protection with a rear T arrester.
- Fully screened, submersible, molded in **peroxide-cured EPDM**.

Characteristic	36 kV front / rear T-body
Rated voltage (Um)	36 kV
Rated current	630 A
Bushing interface	Type C, bolted (EN 50180 / EN 50181)
Versions	Front T-body · rear T-body · rear T arrester
Design	Fully screened, submersible
Insulation	Peroxide-cured EPDM
Standards	Applicable IEC / CENELEC standards

CHARDON 36 KV SERIES



TYPICAL CONFIGURATIONS

1. **Single cable** – front T-body on the equipment bushing
2. **Double cable** – front + rear T-body coupled on one bushing
3. **Cable + surge protection** – front T-body + rear T arrester

APPLICATIONS

RMUs & switchgear · Transformers · Wind farms · Solar parks · Data centers · Sectionalizing cabinets

IEC / CENELEC · T-BODY CONNECTORS

02 Interface "C" connectors & surge arresters

Chardon interface "C" deadbreak connectors range from **17.5 / 24 kV to 42 kV** with current ratings from **400 A to 1250 A**. They are submersible, fully shielded plug-in terminations for connecting underground cable to transformers, switchgear, sectionalizing cabinets and junctions, molded in high-quality peroxide-cured EPDM.

Characteristic	Interface "C"
Series	17/24 kV · 36 kV · 42 kV
Rated current	400 – 1250 A
Surge arresters	Coupling T · 51 / 72 kV
Components	Front / rear T-bodies, rear T arresters, insulating plugs, connecting plugs, bushing extender
Insulation	Peroxide-cured EPDM
Standards	Applicable IEC / CENELEC standards



630 / 1250 A
T-body up to 36 kV



42 kV · 630 A
42-FDT630 / 42-RDT630

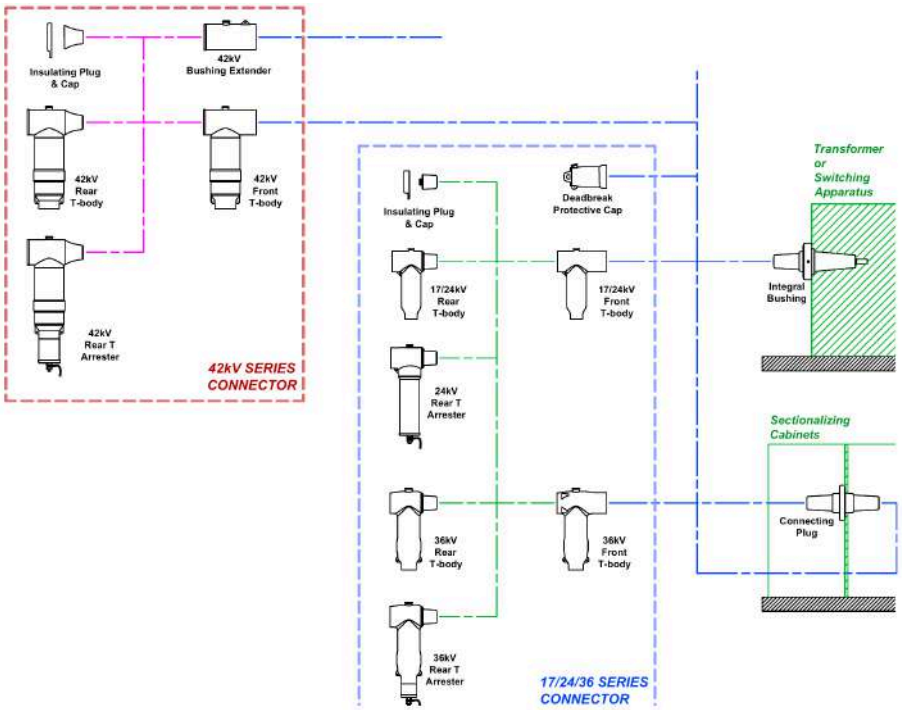


42 kV · 1250 A front & rear
42-FDT1250 / 42-RDT1250



51 / 72 kV coupling T arrester
51-RDTA134 / 72-RDTA134

INTERFACE "C" SYSTEM OVERVIEW · 17/24/36 KV AND 42 KV SERIES



IEC RANGE

IEC / CENELEC · PLUG-IN TERMINATIONS

03 Interface "A" deadbreak connectors

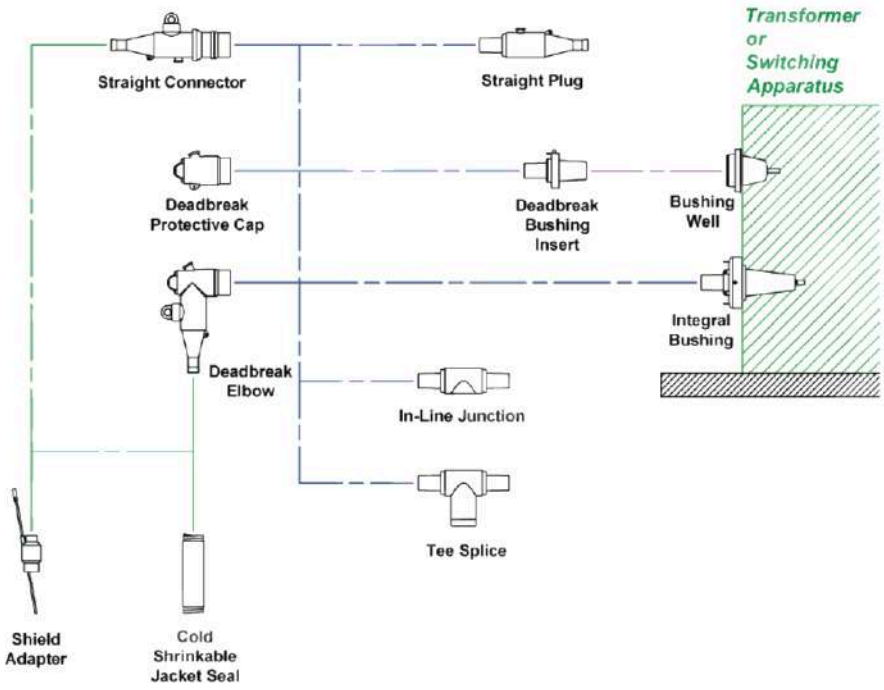
Chardon 17.5 / 24 kV, 250 A deadbreak connectors and accessories provide a safe and efficient way to connect and disconnect cables to equipment on utility distribution systems. They are **submersible, fully shielded plug-in terminations** for connecting underground cable to transformers, switchgear, sectionalizing cabinets and junctions.

Characteristic	Interface "A"
Rated voltage	17.5 / 24 kV
Rated current	250 A
Type	Deadbreak, plug-in, submersible, fully shielded
Insulation	Peroxide-cured EPDM
Standards	Applicable IEC / CENELEC standards
Interchangeability	With major manufacturers to the same standards





INTERFACE "A" SYSTEM OVERVIEW



INDOOR · OUTDOOR · IEEE 48

04 Cold shrink terminations

Chardon cold shrink terminations offer easy installation and reliable performance when terminating indoor and outdoor medium voltage cable. Made from high-quality, **UV-resistant silicone rubber**, they combine durability with high field performance and are designed to last the entire life of the cable.

Each termination includes a **stress-controlling rubber housing** pre-assembled on a plastic hold-out tube: as the hold-out is removed, the housing shrinks onto the cable. **No tools or heat sources** are required.

Characteristic	Termination
Voltage	up to 35 kV
Application	Indoor and outdoor
Material	UV-resistant silicone rubber
Tested to	IEEE/ANSI Std 48



1
Position the pre-stretched body on the prepared cable.

2
Pull out the plastic hold-out core.

3
Done – the body shrinks to a consistent, durable seal.

SHIELDED POWER CABLE JOINTS

Cold shrink splices

Chardon cold shrink splices are reliable and easy-to-use solutions for splicing power cables over a wide range of voltages and applications. All components of a shielded power cable splice are combined in **one compact, pre-stretched joint** that shrinks onto the cable when the core is removed – no special tools, heat or flame.





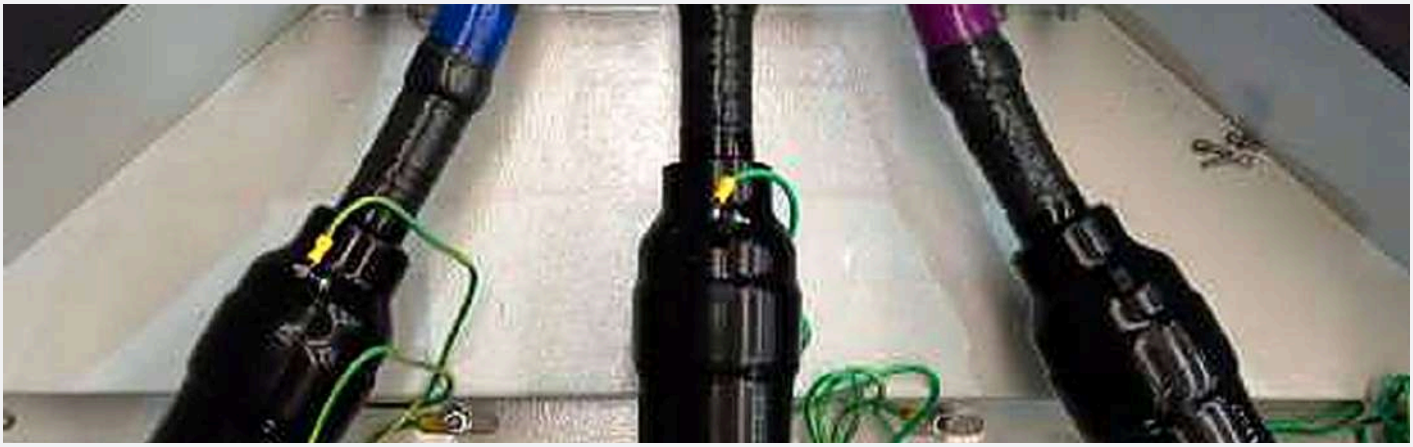


05 PREFABRICATED · TESTED · READY TO INSTALL
Cable jumper links

Chardon jumpers come **prefabricated**, with connectors or terminations already installed on each end, for fast and easy installation. Designed to withstand harsh weather, they are ideal for **wind turbines, transformers** and other electrical installations.

- Finished with screen wire and equipped with an **earthing lug** or other requested features.
- Can be sealed with Chardon's **CJS (Cold Shrink Jacket Seal)** or shield adapter.
- Fixed solution for many applications, including **renewable energy** (wind and solar).
- Available as **36 kV · 630 A jumpers** for RMUs and other applications.
- **Assembled and electrically tested in house** and shipped directly to the customer.





Jumper links installed on switchgear bushings.

TURNKEY PROCESS



1 Cable preparation



2 Termination installation



3 Complete jumper set

SEPARABLE CONNECTORS · COMPONENTS · BUSHINGS

06 Standard interfaces to IEEE 386

IEEE Standard 386 defines the interface dimensions that 200 A and 600/900 A elbows, inserts, junctions, equipment bushings and all mating components must respect to ensure interchangeability. The table below matches each Chardon connector with its mating bushing interface and voltage class, so that components can be selected correctly.

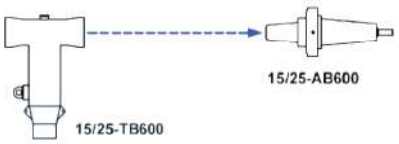
200 A
Loadbreak and deadbreak interfaces

600/900 A
Deadbreak interfaces

15–35 kV
Voltage classes

100%
Interchangeable, verified at independent labs

INTERFACE OVERVIEW

Interface drawing	Connector	Bushing interface	Voltage class	Interface description
	—	**CH200BW**	15 · 25 · 35 kV	200 A deadbreak bushing well interface 15, 25, 28 and 35 kV
	**15-LE200**	**15-LBI200**	15 kV	200 A loadbreak interface 15 kV
	**25-LE200**	**25-LBI200**	25 kV	200 A loadbreak interface 25 and 28 kV
	**35-LE200**	**35-LBI200**	35 kV	200 A loadbreak interface 35 kV (small interface)
	**25-DE200**	**25-DBI200**	15 · 25 kV	200 A deadbreak interface 15, 25 and 28 kV
	**15/25-TB600**	**15/25-AB600**	15 · 25 kV	600 A and 900 A deadbreak interface 15, 25 and 28 kV
	**35-TB600**	**35-AB600**	35 kV	600 A and 900 A deadbreak interface 35 kV

Dashed arrows show the mating direction between connector and bushing interface. Dimensions according to IEEE Std 386.

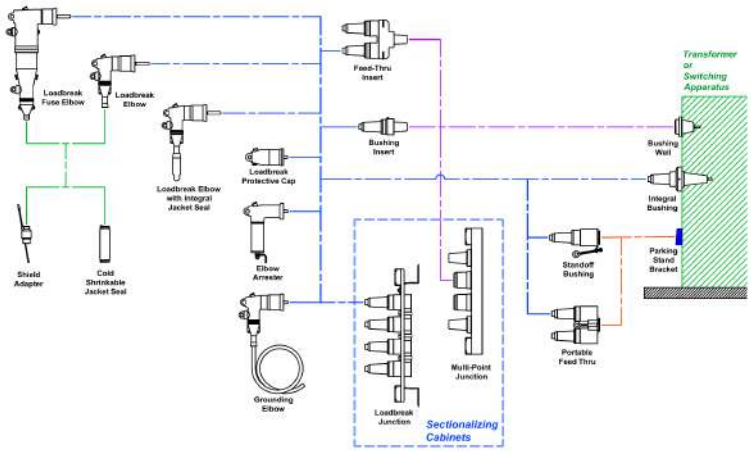
IEEE 386-2016 · 15 – 35 KV

07 200 A / 600 A loadbreak & deadbreak connectors

- **Loadbreak 200 A and 600 A** – energized operation with a hotstick; **deadbreak** – for de-energized circuits.
- High-quality **peroxide-cured EPDM** insulation for long life and reliability.
- Meet **IEEE Std 386-2016**, interchangeable with other compliant manufacturers.
- **Shear-bolt and compression lugs** for aluminium or copper conductors.



SYSTEM OVERVIEW · IEEE 386 CONNECTOR FAMILY



CURRENT LIMITING FUSE · HOTSTICK OPERABLE

08 200 A loadbreak fused elbows

A **full-range current limiting fuse** combined with hotstick-operable loadbreak switching: a fast, cost-effective way to add fused protection **without new switchgear** or replacing existing sectionalizing equipment.

Characteristic	Fused loadbreak elbow
Rated current	200 A · loadbreak, hotstick operable
Fuse	Full-range current limiting · Chardon or other manufacturers
Insulation	Peroxide-cured EPDM
Standard	IEEE Std 386-2016 · fully interchangeable
Application	Fused protection on existing transformers and sectionalizing equipment



Fuse freedom

Chardon fused elbows accept **the Chardon fuse or fuses from other manufacturers** – the most versatile fused elbow on the market.



09 Multi-point junctions

200 / 600 A · 15, 25, 35 KV

Chardon 200/600 A multi-point junctions are available in **2, 3, 4, 5 or 6 point** configurations and allow any combination of 200 A bushing wells and 600 A bushing interfaces. The design can eliminate or minimise the need for 200 A elbows and 600 A T-bodies, offering a compact point for connecting, looping and taping cables where flexibility and operability matter.

Characteristic	Multi-point junction
Configurations	2 · 3 · 4 · 5 · 6 points
Voltage ratings	15 · 25 · 35 kV
Interfaces	200 A bushing wells / 600 A bushings, any combination
Body	Molded EPDM, fully shielded, deadfront, submersible
Bracket	Stainless steel
Installation	Subsurface · padmount · indoor and outdoor vault





IEEE C119.1 · C119.4

Submersible low voltage connectors

- Meet the requirements of **IEEE C119.1 and C119.4**.
- **Aluminium alloy bus bar** for reliable conductivity and strength.
- Adaptable cable sleeve design for a **wide range of conductor sizes**.
- High-quality **TPE insulation** with excellent resistance to UV, ozone, acids and alkalis.



4 ports



6 ports



8 ports

10 15.5 · 27 · 35 KV
Automatic circuit reclosers & loadbreak switches

Chardon reclosers and loadbreak switches safely disconnect sections of the network for maintenance and repair of distribution lines **without shutting down the entire system**. Reclosers come with advanced control software for automated reclosing, improving overall control and performance.

- Lighter and more compact than traditional oil or air-based reclosers.
- Safer and more environmentally friendly.
- Reduced maintenance.

Product	Voltage	Phases
Recloser	15.5 · 27 · 35 kV	1 or 3
Loadbreak switch	15.5 · 27 · 35 kV	3



Three-phase recloser with control cabinet



Single-phase recloser with control cabinet

OVERHEAD LINE SAFETY

Cable support safety device

Downed power lines, often caused by storms or high winds, are a primary cause of electrical accidents and outages. The Chardon cable support safety device secures overhead distribution lines and **prevents them from falling to the ground** if a conductor breaks, protecting pedestrians and animals. No special tools or training are required.

1
Insert the wire grip into the wire-holding component.

2
Loop the device around the three phases on the pole.

3
If a line breaks, the device holds it off the ground.



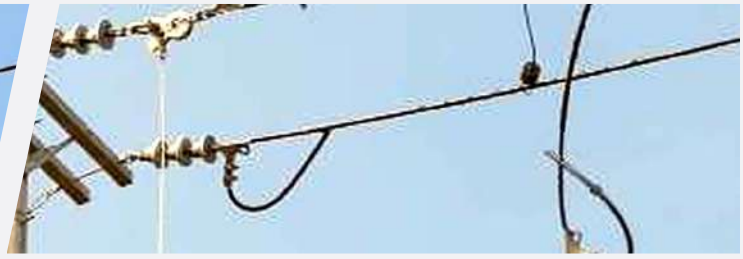
Wire grip



Wire-holding component



Device installed on the three phases.



After a line break the conductor is held in place.

ANSI / IEEE RANGE

11 CHARDON RANGE
Range at a glance

Product family	Standard	Voltage	Current	Insulation	Page
IEC RANGE					
36 kV 630 A front & rear T-bodies	IEC / CENELEC	36 kV	630 A	EPDM	5
IEC interface “C” connectors	IEC / CENELEC	17.5 – 42 kV	400 – 1250 A	EPDM	6
Coupling T surge arresters	IEC	51 · 72 kV	—	—	6
IEC interface “A” connectors	IEC / CENELEC	17.5 / 24 kV	250 A	EPDM	7
Cold shrink terminations	IEEE/ANSI 48	up to 35 kV	—	Silicone	8
Cold shrink splices	—	wide range	—	Silicone	8
Cable jumper links	to specification	up to 36 kV	630 A	—	9
ANSI / IEEE RANGE					
200 A loadbreak elbows & inserts	IEEE 386-2016	15 · 25 · 35 kV	200 A	EPDM	11
200 A deadbreak elbows & inserts	IEEE 386-2016	15 · 25 kV	200 A	EPDM	11
600 / 900 A deadbreak T-bodies	IEEE 386-2016	15 · 25 · 35 kV	600 / 900 A	EPDM	11
Fused loadbreak elbows	IEEE 386-2016	—	200 A	EPDM	11
Multi-point junctions (2–6 points)	—	15 · 25 · 35 kV	200 / 600 A	EPDM	12
Submersible LV connectors	IEEE C119.1 / C119.4	LV	—	TPE	12
Reclosers (1- and 3-phase)	—	15.5 · 27 · 35 kV	—	—	13
Loadbreak switches (3-phase)	—	15.5 · 27 · 35 kV	—	—	13

“—” = not specified in this guide, details on request. IEC cable accessories and arresters for renewable energy applications are available up to 72.5 kV.

COMMON FEATURES

- Peroxide-cured EPDM compounds developed and mixed in house.
- Full interchangeability with compliant major manufacturers.
- Submersible, fully shielded designs for underground distribution.
- Epoxy bushings mating both IEEE/ANSI and IEC accessories.
- Shear-bolt or compression lugs for Al and Cu conductors.

HOW TO ORDER

1. **Product:** family and full type designation.
2. **Ratings:** voltage class / interface and rated current.
3. **Cable data:** type, conductor material (Al / Cu), cross-section and insulation diameter.
4. **Lugs:** shear-bolt or compression.
5. **Quantity** and requested accessories (caps, arresters, jacket seals).
6. **Special requirements:** customised jumpers, fuses, configurations.

For product selection, datasheets and quotations please contact **3B Energy** · info@3b-energy.com · +39 0371 1856259

12 IN-HOUSE COMPOUNDS · GLOBAL PRODUCTION
Quality from the raw material up

Chardon is one of the few cable accessory manufacturers that compound their own EPDM rubber in house. All formulations in use today were developed by Chardon and are approved by its OEM customers for their own products.

Headquartered in Taiwan, Chardon operates production in **Taiwan, China, Mexico and Brazil**. With more than forty 700-ton screw ram injection presses, products can be molded in more than one location for secure supply.



MOLDING MATERIALS

EPDM
Peroxide-cured, own formulations for connectors and junctions

ESP
EPDM–silicone hybrid

Silicone
Solid silicone molded parts

LSR
Liquid silicone for cold shrink products (since 2018)

MILESTONES

- **1993** – founded in Taiwan to supply EPDM molded accessories to Taiwan Power Company
- **IEEE / ANSI** – third largest manufacturer worldwide; full interchangeability demonstrated at independent laboratories
- **IEC range** – cable accessories and arresters up to 72.5 kV for wind and solar applications
- **2018** – cold shrink terminations and joints in liquid silicone, 15 – 35 kV

GLOBAL FOOTPRINT

Taiwan
Headquarters & production

China
Production

Mexico
Production

Brazil
Production

Customers are welcome to visit the facilities and see Chardon's capabilities first-hand.

CHARDON GROUP PRODUCTS

3B ENERGY S.r.l.

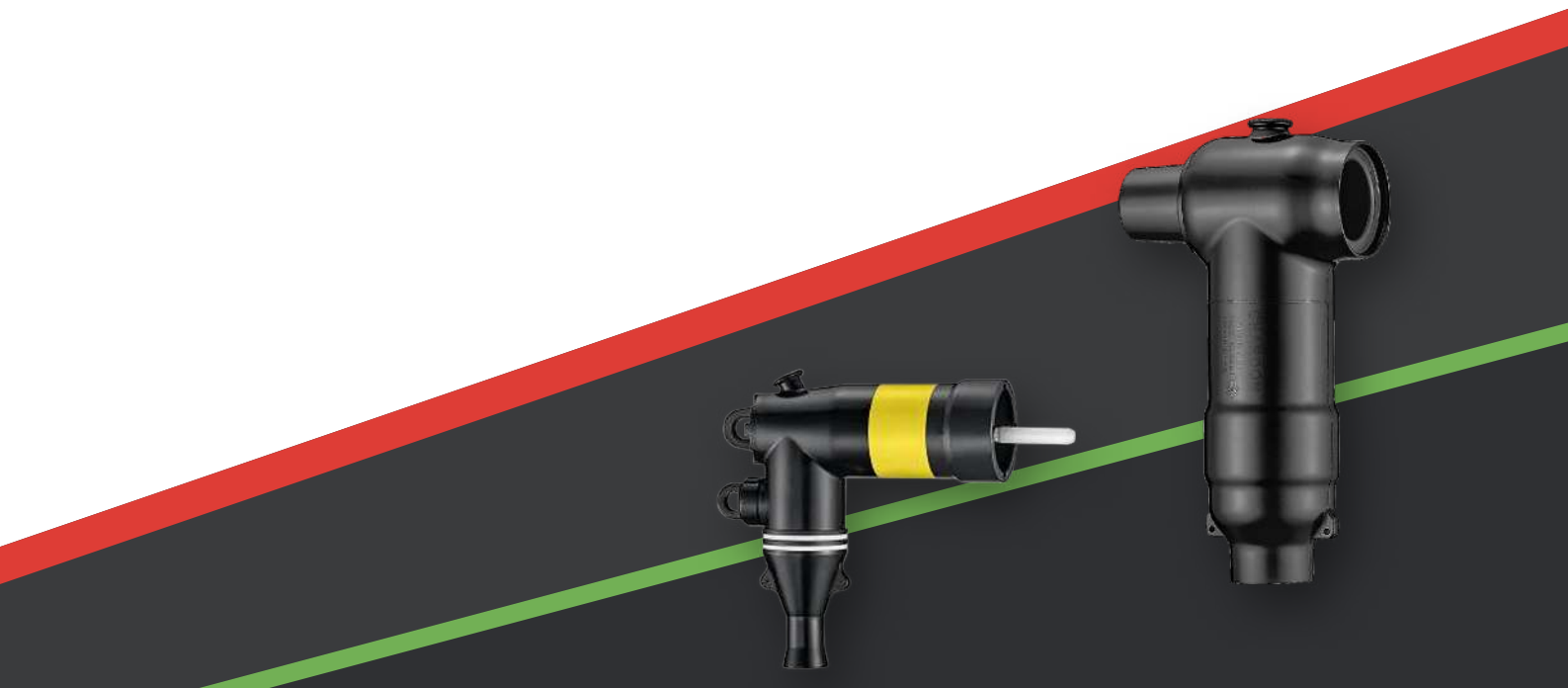
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