CHARDON GROUP

# PRODUCT GUIDE


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

Chardon is one of the few cable accessory manufacturers that compound their own EPDM rubber in house. All the formulations in use today were developed by Chardon. In addition to using these formulations for our products, all our OEM customers have approved Chardon developed compounds for use in their products. In addition to EPDM, Chardon also has the ability to mold polymer products in ESP (EPDM – silicone hybrid), solid silicone, and liquid silicone materials.
The Chardon IEEE/ANSI cable accessory product line consists of 200A loadbreak connectors, and 600/900A deadbreak connectors, in voltage classes from 15 kV to 35 kV. Chardon has demonstrated fully interchangeability with all of the major competitors at independent test laboratories. Chardon is the only “non-US” manufacturer to have its products on virtually every utility distribution system in the United States (through our OEM/private label customers).

We are currently developing IEC cable accessories and arresters up to 69 kV for use in renewable energy (wind and solar) markets.In addition to the EPDM cable accessories, Chardon offers an increasingly growing selection of high-quality liquid epoxy bushings that mate to both IEEE/ANSI and IEC cable accessories.

In 2018 Chardon expanded their polymer products line with the addition of cold shrink terminations and joints. These products are molded in liquid silicone and are offered in voltage classes from 15 kV to 35 kV.

Chardon is headquartered in Taiwan, and currently has facilities in Taiwan, China, Mexico, and Brazil. With more than forty (40), 700-ton screw ram injection presses, Chardon has the ability to mold products in more than one location. With a hard-earned reputation for quality and outstanding customer service and support, Chardon is ready to earn your business! Chardon is committed to meeting – and exceeding – your requirements. Chardon welcomes inquiries from around the world. Chardon’s best sales tool is having you visit our facilities and see our capabilities firsthand.

**WHY NOT SEE WHAT CHARDON CAN DO FOR YOU? FOR DETAILED PRODUCT INFORMATION, PLEASE SEE OUR WEBSITE AT WWW.CHARDONGROUP.COM.**

# Standard Interfaces for Separable Connectors, Components and Equipment Bushings

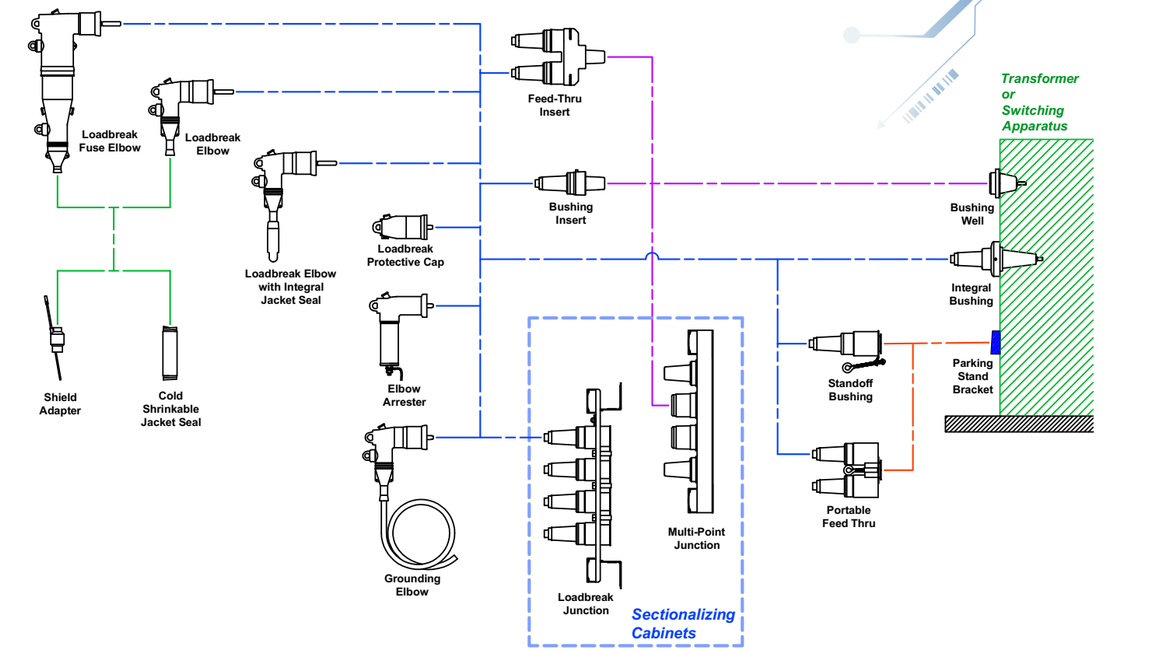
IEEE Standard 386 defines the specific interface dimensions that 200 amp and 600/900 amp series elbows, inserts, junctions, equipment bushings, and any mating components must conform to ensure interchangeability. The table below provides information concerning the types of interfaces for various applications and is useful to ensure proper matching of components.

| BUSHING INTERFACE | VOLTAGE CLASS | INTERFACE DESCRIPTION |
|---|---|---|
| CH200BW | 15kV,25kV and 35kV | A 200A Deadbreak Bushing Well Interface, 15kV, 25kV, 28kV and 35kV |
| 15-LE200 / 15-LBI200 | 15kV | A 200A Loadbreak Interface, 15kV |
| 25-LE200 / 25-LBI200 | 25kV | A 200A Loadbreak Interface, 25kV and 28kV |
| 35-LE200 / 35-LBI200 | 35kV | A 200A Loadbreak Interface, 35kV (Small Interface) |
| 25-DE200 / 25-DBI200 | 15kV and 25kV | A 200A Deadbreak Interface, 15kV, 25kV and 28kV |
| 15/25-TB600 / 15/25-AB600 | 15kV and 25kV | A 600A and 900A Deadbreak Interface, 15kV, 25kV, 28kV |
| 35-TB600 / 35-AB600 | 35kV | A 600A and 900A Deadbreak Interface, 35kV |

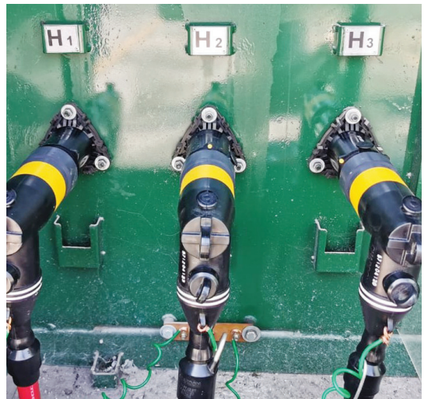


# 200A Loadbreak Connectors

Chardon 200 amp loadbreak connectors and accessories provide a safe, efficient method to connect and disconnect cable to equipment on utility distribution systems. Loadbreak connectors are ideal for energized operations using standard hotstick tools. Chardon loadbreak connectors are submersible, fully shielded, plug-in terminations, used for connecting underground cable to transformers, switchgear, sectionalizing cabinets and junctions. Chardon loadbreak connectors are molded using high-quality, peroxide cured EPDM insulation for extended life and reliable field performance. All Chardon 200 amp loadbreak connectors meet electrical, mechanical, and dimensional requirements of IEEE Standard 386-2016, and are fully interchangeable with other major manufacturers currently complying with IEEE Standard 386.









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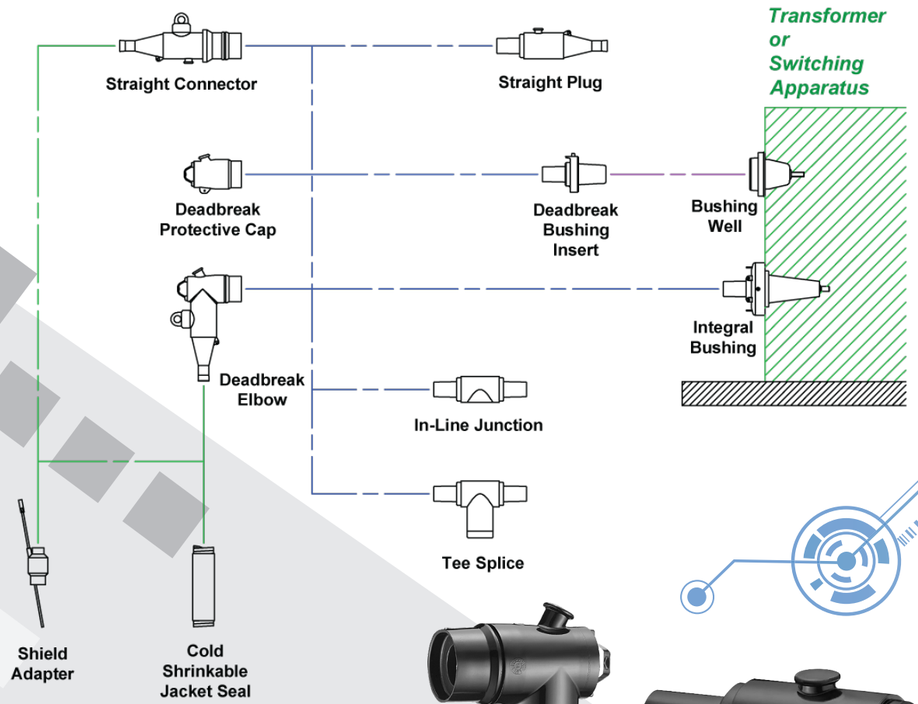
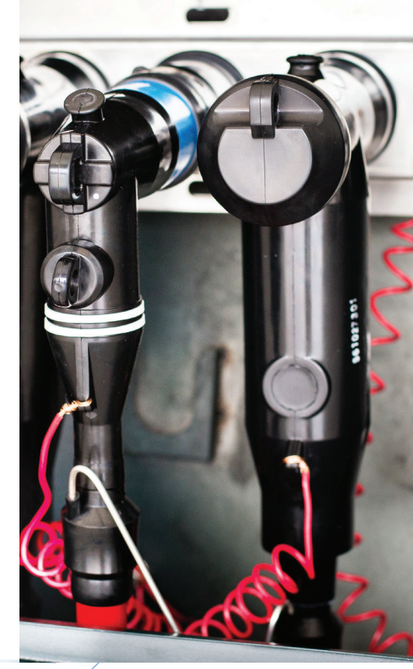
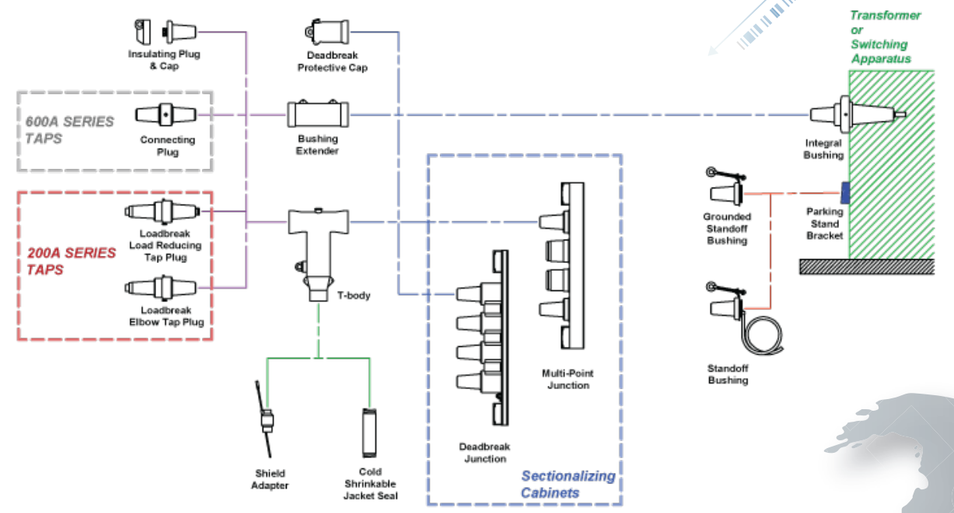



# 600A/900A Deadbreak Connectors

Chardon 600/900 amp deadbreak connectors are used for deadfront underground installations on 600/900 amp primary feeders and network circuits. They provide a completely shielded, deadfront, fully submersible cable connection for medium voltage apparatus – such as transformers, switchgear, etc., and can also be used to make splices, junctions, taps, and terminations for main, underground distribution feeders. De-energized connectors can easily be connected and disconnected using standard hand tools in accordance with Chardon installation instructions and standard safety procedures. A 900 amp continuous rating can be achieved when used with a bi-metal or copper compression connector and all copper mating components, including apparatus bushings or junctions. All Chardon 600/900 amp deadbreak connectors meet electrical, mechanical, and dimensional requirements of IEEE Standard 386-2016, and are fully interchangeable with other major manufacturers currently complying with IEEE Standard 386.



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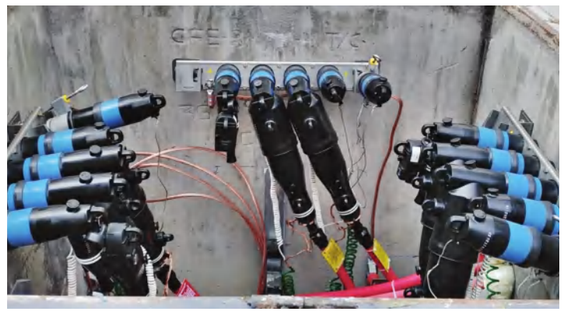
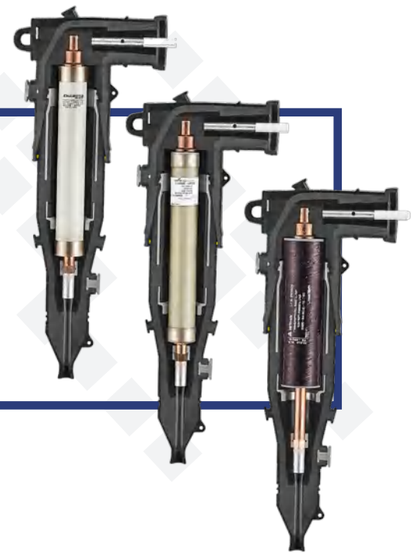
# Fused Elbows/Fuses

**Chardon 200 amp loadbreak fused elbows** combine the advantages of a full range current limiting fuse with the convenience of hot stick operable, loadbreak elbow switching. The fused loadbreak elbow provides a fast, convenient and cost-effective way to add fused protection to a distribution system without adding a new piece of switchgear or replacing existing sectionalizing equipment. Chardon loadbreak fused elbows are molded using high-quality, peroxide cured EPDM insulation for extended life and reliable field performance. Chardon fused elbows connectors meet electrical, mechanical, and dimensional requirements of IEEE Standard 386-2016, and are fully interchangeable with other major manufacturers currently complying with IEEE Standard 386.



Chardon 200 amp loadbreak fused elbows are the most versatile fused elbows on the market. With competitor's products you must use their own fuse. With Cardon you have options. You can use the Chardon fuse, or fuses from our competitors! Nobody can compete with Chardon when it comes to offering you the best value in the industry!





# Multi Point Junctions

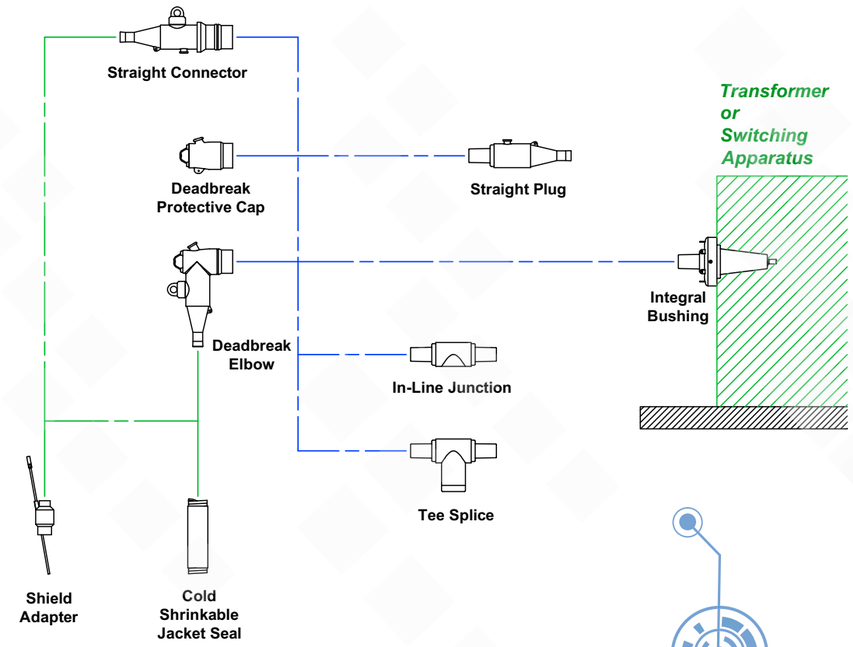
Chardon 200/600 amp multi point junctions are available in 2, 3, 4, 5, or 6 point configurations, with 15 kV, 25 kV, and 35 kV ratings. Chardon multi point junctions give the user maximum flexibility, allowing any combination of 200 amp bushing wells and 600 amp bushing interfaces. The junction's design can eliminate, or minimize, the requirements for 200 amp elbows and 600 amp T bodies. The EPDM molded body, with a stainless-steel bracket, is fully shielded, deadfront and submersible. Chardon multi point junctions provide a convenient, compact design for connecting, looping, and taping of 600 amp and 200 amp T bodies, elbows, and other accessories at a common location where flexibility and operability are important. The products are ideally suited for subsurface, padmount, indoor and outdoor vault applications.

# Submersible Low Voltage Connectors

Chardon submersible low voltage connectors meet the requirements of IEEE standard C119.1 and C119.4. The design incorporates an aluminum alloy buss bar for reliable conductivity and strength. The adaptable cable sleeve design allows application on a wide range of conductor sizes. High quality EPDM insulation rubber provides excellent resistance to UV, Ozone, Acids, and Alkalis.

# IEC Interface “A” Deadbreak Connectors

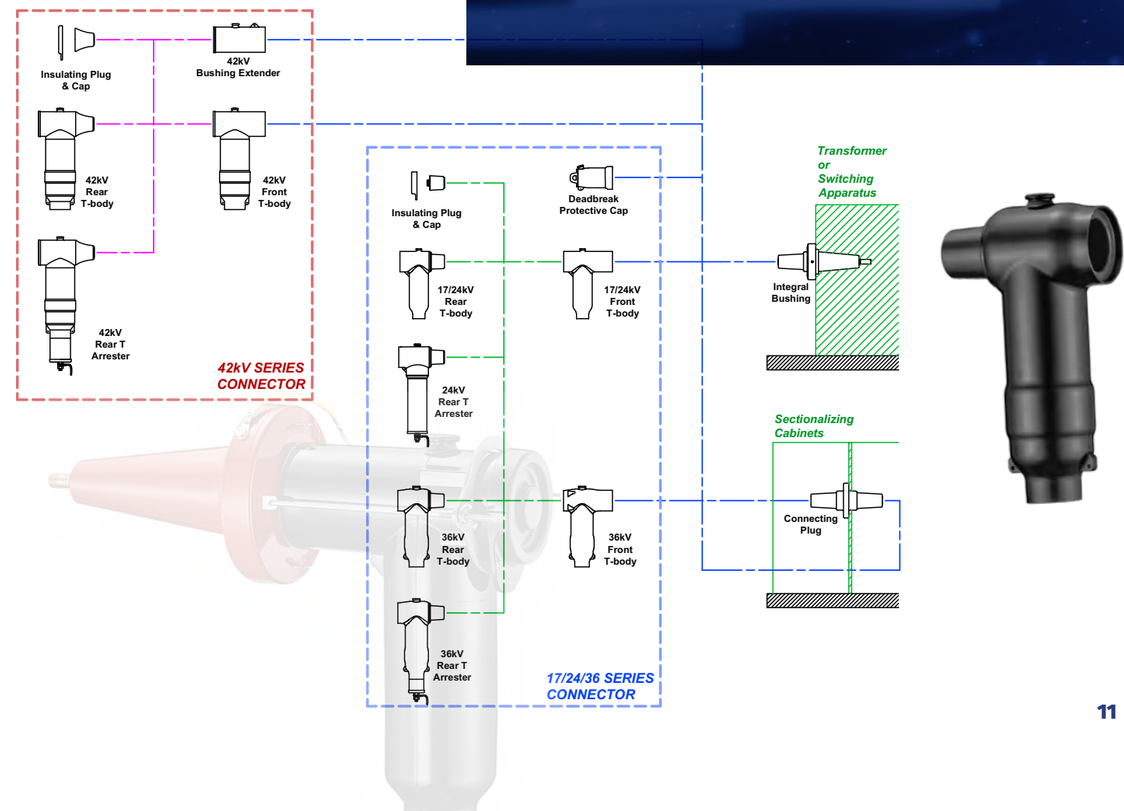
Chardon 17.5 kV/24 kV 250 amp deadbreak connectors and accessories provide a safe, efficient method to connect and disconnect cable to equipment on utility distribution systems. Chardon deadbreak connectors are submersible, fully shielded, plug-in terminations, used for connecting underground cable to transformers, switchgear, sectionalizing cabinets, and junctions. Chardon deadbreak connectors are molded using high quality, peroxide-cured EPDM insulation for extended life and reliable field performance. All Chardon 250 amp deadbreak connectors meet the electrical, mechanical, and dimensional requirements of the applicable IEC/CENELEC standard(s), and are fully interchangeable with other major manufacturers currently complying with the same IEC/CENELEC standard(s).






# IEC Interface “C” Deadbreak Connectors

Chardon interface “C” deadbreak connectors and accessories provide a safe, efficient method to connect and disconnect cable to equipment on utility distribution systems. Chardon deadbreak connectors range from 17.5 kV/24 kV to 42 kV, with current ratings from 400 amps to 1,250 amps. Chardon deadbreak connectors are submersible, fully shielded, plug-in terminations, used for connecting underground cable to transformers, switchgear, sectionalizing cabinets, and junctions. Chardon deadbreak connectors are molded using high quality, peroxide-cured EPDM insulation for extended life and reliable field performance. All Chardon deadbreak connectors meet the electrical, mechanical, and dimensional requirements of the applicable IEC/CENELEC standard(s), and are fully interchangeable with other major manufacturers currently complying with the same IEC/CENELEC standard(s).



# Cable Connectors

**Chardon offers a variety of compression and shear bolt connectors to meet your needs. Compression connectors are offered in aluminum (600 amp and 630 amp only), bi-metal, and (tin plated) copper.**

## 200 amp/250 amp Compression Connectors

Chardon offers a variety of compression and shear bolt connectors to meet your needs. Compression connectors are offered in aluminum (600 amp and 630 amp only), bi-metal, and (tin plated) copper.

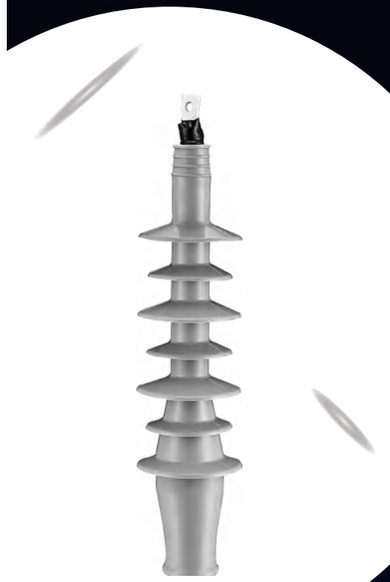
## 600 amp/630 amp Compression Connectors

**Compression connectors are available in all copper or bi-metal designs.**
**All connectors are designed for use with either aluminum or copper conductors.**

## 600amp/630 amp Shear Bolt Connectors

Chardon shear bolt connectors are designed for use in low and medium voltage connections. The only tool required is a standard torque ratchet wrench with a hexagonal socket. No crimping tools are required. The connector is manufactured from high conductivity aluminum for heavy duty application. The cable entrance is chamfered on the inside to provide easy insertion of cable. The shear bolts used in the connector ensure the correct torque and optimal contact force and ensure a reliable current path.



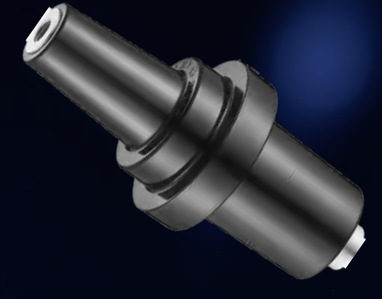
# Epoxy Products

Chardon manufactures a variety of epoxy bushings for medium voltage applications. Chardon epoxy bushings are used in both IEEE and IEC applications to connect cable accessories to transformers, switchgear, other cable accessories, etc. Chardon epoxy bushing are made from high quality epoxy molding resins, and undergo rigorous electrical and mechanical testing, including periodic x-ray analysis, to ensure quality and reliability. The products are fully insulated and submersible.

# Transformer Components

## Bayonet Fuse Holders

Chardon bayonet fuse holders are used to protect transformers, switchgear, and distribution systems. They are designed for use in oil filled (or approved equivalents) single phase and three phase padmount transformers, switchgear, and submersible transformers. The Chardon bayonet fuse holders combine the ease of hot stick operation with the safety of deadfront construction. When using appropriate safety procedures, the Chardon bayonet fuse holder can be loadbreak operated for disconnecting the transformer from the energized line, making changes to dual voltage or tap charger switches, or working on the transformer's secondary connections.



## Bayonet Isolation Links

The Chardon bayonet isolation link is used in series with bayonet type expulsion fuses to provide extra protection during re-fusing operations. Isolation links are not fuses and do not have an interrupting rating. During a low impedance transformer failure, the isolation link will melt so that the opened primary circuit of a failed transformer cannot be re-energized by the utility line crew. Chardon isolation links are fully interchangeable with links of other manufacturers.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