

# Do you need rugged power connections for vital fixed and portable electrical equipment?



For facilities and applications requiring single and three-phase power connections to get the job done, look no further than the Appleton™ Powertite™ Series Plugs, Connectors, and Receptacles by Emerson. Offering a wide variety of amperages, spanning from 30 to 400 Amps, 600 Vac, 250 Vdc, and 50-600 Hz ratings, these plugs, connectors, and receptacles meet industry standards while providing safe, reliable, and rugged connectivity.

### FAQs:

#### Q: Are Powertite plugs, connectors, and receptacles suitable for harsh industrial and hazardous locations?

**A:** Common harsh industrial areas are typically where dust, water, dirt, and rough usage are normally present; shipping docks and ports, cellular relay stations, pulp and paper mills, wastewater treatment plants, pump stations, land-based drilling rigs, and other types of inclement locations.

Powertite housings come standard with an epoxy powder coat finish that provides corrosion protection from environmental elements for an extended product lifespan.

ADR/AR receptacles can be installed in harsh industrial areas as they carry environmental ratings suitable for use in wet and corrosive locations requiring NEMA ratings such as: Type 3, 4 and 4X. ADR/AR receptacles are not classified for use in hazardous locations. ACP/AP plugs are also suitable for use in harsh industrial locations and carry NEMA 4X rating when mated with ARC connectors and ADR/AR receptacles.

30, 60, 100, and 150 Amp Style 2 ACP plugs are listed for use in hazardous (classified) locations when used with our EBR, JBR, DBR, MD2SR, ID2SR, and FSQC hazardous rated interlocked receptacles.

#### Q: How does the Powertite design extend safety to users?

**A:** To prevent accidental mix-matching, positive polarization only permits plugs, connectors, and receptacles of the same grounding style and voltage to be used together.

Energized contacts are deeply recessed inside the insulating block to reduce danger of accidental touching and minimize the possibility of exposed arcs.

Style 2 plugs have a grounding conductor connected to a solderless lug inside the plug housing and utilize an extra grounding pole jumpered to the plug housing using a copper strap.

Style 2 connectors and receptacles have two detent spring clips that engage the grounded plug housing upon insertion, using an extra grounding pole jumpered to a screw on the receptacle housing using a copper strap. The longer grounding pole “makes first and breaks last” to ensure grounding.

WSR and WSRD Series ordinary location interlocked receptacles utilize Style 2 3W,4P grounding construction including a disconnect switch operated using an interlocked safety mechanism prohibiting plug insertion or removal under load unless the handle is in the off position and the interlock release lever is actuated.

EBR, JBR, DBR, MD2SR, ID2SR, and FSQC hazardous rated interlocked receptacles also utilize dedicated ground Style 2 construction and an interlocked safety mechanism.

#### Q: Are Powertite plugs, connectors, and receptacles interchangeable with other manufacturers devices?

**A:** Powertite plugs, connectors, and receptacles, 30, 60, and 100 Amps, comply with UL 1686. This pin and sleeve standard describes similarity in contact location, voltage ratings, electrical and mechanical characteristics of various manufacturers’ devices. Because of this standardization, all manufacturers’ devices that conform to these same standards are interchangeable with one another.

Appleton Powertite ACP plugs and ADR receptacles are also UL Classified to intermate with Crouse-Hinds™ Arkrite® Series Plugs and Receptacles.①

The non-hazardous (ordinary location) WSR/WSRD and EBR, JBR, and FSQC hazardous rated interlocked receptacles are also UL Classified to intermate with Crouse-Hinds™ Arkrite® Series Plugs.①

#### Q: Do Powertite plugs and receptacles have horsepower ratings?

**A:** The Powertite ADR/AR receptacles and ACP/AP plugs have horsepower ratings for emergency disconnect and normal running, not for starting or stopping. Refer to catalog pages for motor horsepower ratings at full-load current per NEC table 430-250 as well as emergency disconnect under load.



Appleton Powertite Plugs and Receptacles - providing power to pumps and compressors.

① Crouse-Hinds and Arkrite are registered trademarks of Cooper Industries, Inc. © Eaton.

## Powertite FAQs & Considerations

### Considerations:

#### REPLACEMENT PARTS

**Q: What options are available for existing installed equipment that has begun to exhibit component degradation, such as worn gaskets, bushings, contacts, or receptacle covers?**

**A:** A variety of Powertite replacement parts are available, allowing users to repair old plugs and receptacles so a new unit is not required, providing customers cost effective flexibility in times of need.

As part of the recent 200 Amp redesign, an updated insulating block design for model B plugs and receptacle interiors are not backwards compatible with legacy versions.

#### ENVIRONMENTAL FACTORS

**Q: Are receptacles protected if they are exposed to an occasional washdown or excessive moisture and water?**

**A:** Powertite 30, 60, 100, and 150 Amp receptacles come standard with a NEMA 3 rated spring cover and an additional NEMA 4X rated screw cover, at no charge, which can be installed on-site.

The 200 Amp receptacles are NEMA 4X rated and the 400 Amp - N4 version is NEMA 4 rated when the cover is secured down by wingnuts.

**Q: When connected with connectors or receptacles, are plugs protected from washdowns or excessive moisture and water?**

**A:** When Powertite plugs and connectors or receptacles are connected they provide NEMA 4, 4X ratings. On 30, 60, 100, and 150 Amp plugs, the clamping ring on the front end has a neoprene gasket, ensuring a watertight seal when threaded onto the connector or receptacle's sleeve. 200 Amp plugs have tabs for connectors or receptacles wing nuts to be tightened down, providing NEMA 4X ratings.

On the plug backend, the plug cable clamp compresses down on the plug bushing preventing water ingress.

**Q: What options are available for protecting unused plugs when they are no longer required to feed power to equipment to maintain ingress protection?**

**A:** A NEMA 4X rated Powertite plug cap accessory is available for 30, 60, 100, 150 and 200 amperages, and aids in prolonging the plug's interior lifespan. This protects the plug's interior from becoming dirty and corroded due to exposure to the elements and offers a reliable protection solution unlike other "work arounds" such as plastic bags.

#### INSTALLATION

**Q: What choices are available when there is a need to change from standard service to reverse service, for example generator applications?**

**A:** For applications requiring a "reverse service" configuration, the plug's sleeve interior is "reversed" with the receptacle's pin interior. The plug becomes the normally energized device and the receptacle is non-energized, only becoming energized when connected with a "live" plug.

For convenience, 30, 60, 100, and 150 Amp ACP plugs and 200 Amp AP plugs, and non-hazardous ADR/AR Powertite receptacles are made to be field serviceable for reverse service by swapping interiors with units already on-site, or by ordering interior accessories thus avoiding long factory lead-times. Reverse service is not available on legacy 200 Amp Powertite models.

**Q: When it is unknown what equipment the connectors or receptacles will be supplying power to, what is the recommendation?**

**A:** It's important to know how these devices will be used on-site, for example, 480 Vac, 3-phase receptacles are commonplace within facilities. Often, connectors or receptacles provide portable power for plant maintenance and turn-arounds using large industrial equipment such as pumps and compressors.

When unsure if welding applications will arise, it's safer to install a receptacle with a fused interlocked disconnect switch, such as the WSR/WSRD Series, to comply with the overcurrent protection and disconnecting mean requirements of NEC Article 630 [Electric Welders].



For additional product specifications, please refer to the [Appleton Powertite Plugs & Receptacles Catalog Pages](#).

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