

## Accessories and miscellaneous hardware

Copper colloidal surface treatment protects, lubricates and enhances conductivity of all electrical connections



- Unique, homogenized blend of pure, polished colloidal copper, rust and corrosion inhibitors
- Simultaneously protects, lubricates and enhances conductivity of mating surfaces
- Extremely adhesive compound flows smoothly into uneven contours and voids, ensuring easy application and complete, positive protection and lubrication
- Won't settle out, thin, thicken, harden or dry out under the most severe environmental conditions
- Excellent temperature characteristics— can be brushed on at -45.5 °C (-50 °F) to 121 °C (250 °F) (other compounds either turn solid or run like water at these extremes) and remains intact at short terms even at 980 °C (1,800 °F)

Good connections are one of the most important aspects of electrical work. Mechanics know how much downtime is caused when fluids or oils leak into the raceway system or when they have to look for a weak link in a ground system caused by a high-resistance connection. Mechanics also know how much time is spent keeping contacts, switches, lugs and other connectors clean or replacing parts because of “green scourage” buildup. ABB has the solution to improve connections made in thousands of electrical and

raceway installations made each day by electricians everywhere. Kopr-Shield® compound may be used to advantage in all electrical installations. When the environment is hostile to electrical and mechanical connections, Kopr-Shield compound is a must.

### Use Kopr-Shield compound for battery lugs and cables to:

- Prevent “green scourage” corrosion
- Reduce resistance
- Ease terminal installation and removal

### Use Kopr-Shield compound for raceways to:

- Lubricate for ease of assembly and disassembly
- Improve grounding continuity (exceeds code requirements)

### Use Kopr-Shield compound for fuse clips to:

- Eliminate hot spots for even heat distribution
- Prevent oxidation by preventing carbon path formation
- Lubricate for easy installation and removal of fuses

### Use Kopr-Shield compound for wiping contacts, drum switches and slip rings to:

- Prevent galling, burning, pitting and discoloration
- Suppress arcing and dissipation of coronas
- Lubricate for ease of operation

### Kopr-Shield joint compound

Cat. no.	Description	Std. pkg.	Weight lb/C
201-31879	1½-oz. Container with brush	96	11.46
201-31879-1	4-oz. Container with brush	24	38.54
CP8-TB	8-oz. Container with brush	12	64.58
CP16	16-oz. Container with brush	12	120.83
CP128	1-Gallon can	4	952.00



### ALUMA-SHIELD aluminum joint compound

Cat. no.	Contains	Description
21059	1-pt. Squeeze bottle	For aluminum cable connections; contains fine zinc particles which break through oxide film on cable strands upon compression of connection; ensures a low resistance contact and seals out air and moisture.
AP8	8-oz. Brush cap can	
M53	5-Gallon can	



## Accessories and miscellaneous hardware



### Belleville compression washers

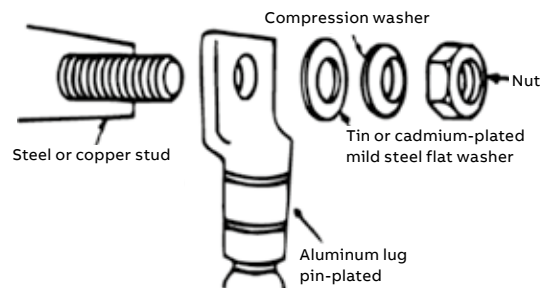
- Essential when bolting aluminum lugs and connectors to bus bars with steel or brass hardware
- Maintain constant pressure in heavy-duty, high-temperature applications
- Available with or without flat washer

When bolting aluminum lugs and connectors to bus bars with steel or brass hardware, the recommended practice to ensure a tight connection is to use a Belleville spring washer on top of a flat washer under the bolt head or nut. For heavy-duty service where the heat rise is expected to exceed 30 °C above ambient, this procedure maintains constant pressure as the connector metals expand and contract with temperature changes.

### Belleville compression washers

Cat. no.	Bolt size (in.)	O.D.	Dimensions in. (mm)		
			Flat washer Thickness	Belleville washer O.D.	Belleville washer Thickness
<b>Belleville compression washers plus flat washer</b>					
60800B	¼	0.75 (19.1)	0.07 (1.8)	0.69 (17.5)	0.06 (1.5)
60801B	5/16	0.88 (22.1)	0.07 (1.8)	0.81 (20.6)	0.07 (1.8)
60802B	¾	1.00 (25.4)	0.08 (2.0)	0.94 (23.9)	0.08 (2.0)
60803B	½	1.25 (31.8)	0.11 (2.8)	0.81 (20.6)	0.10 (2.5)
<b>Belleville compression washer only</b>					
60800	¼	–	–	0.69 (17.5)	0.06 (1.5)
60801	5/16	–	–	0.81 (20.6)	0.07 (1.8)
60802	¾	–	–	0.94 (23.9)	0.08 (2.0)
60803	½	–	–	0.81 (20.6)	0.10 (2.5)
60804	5/8	–	–	1.50 (38.1)	0.11 (2.8)

### Diagram



Note: Ordering quantity must be in unit quantities and multiples thereof.

The Belleville washer should be installed with a larger flat washer to spread the high stresses of the compression washer edges over a large area of the lug and/or bus bar.



### Dragon Tooth® transition washers

Quick, dependable and versatile.

- Connect copper-to-aluminum, copper-to-copper or aluminum-to-aluminum components
- Toothed surface penetrates aluminum and copper oxides
- Lower installed cost – no need to grind aluminum surfaces, apply compounds or use spring-type washers

### Dragon Tooth transition washers

Cat. no.	Size (in.)	Bolt torque (in.-lb)
DTW14	¼	50–80
DTW516	5/16	125–160
DTW38	¾	160–240
DTW12	½	390–540
DTW58	5/8	540–730

## Accessories and miscellaneous hardware



### Hex head bolts and nuts

Cat. no.				
Diameter and threads per inch				
¼ in.-20	⅝ in.-18	¾ in.-16	½ in.-13	Length (in.)
<b>Type BB — Silicon bronze hex head bolts</b>				
25100BB-C	31100BB-C	37100BB-C	50100BB-C	1
-	31125BB-C	37125BB-C	50125BB-C	1¼
-	31150BB-C	37150BB-C	50150BB-C	1½
-	31175BB-C	37175BB-C	50175BB-C	1¾
-	32100BB-C	37200BB-C	50200BB-C	2
25225BB-C	31225BB-C	37225BB-C	50225BB-C	2¼
-	31250BB-C	37250BB-C	50250BB-C	2½
-	31275BB-C	37275BB-C	50275BB-C	2¾
-	31300BB-C	37300BB-C	50300BB-C	3
-	-	37325BB-C	50325BB-C	3¼
-	-	37350BB-C	50350BB-C	3½
<b>Type HN — Silicon bronze hex nuts</b>				
14010HN-C	31010HN-C	37010HN-C	50010HN-C	-



### Washers

Cat. No.	Bolt size (in.)	O.D. (in.)	I.D. (in.)	Thickness (in.)	Height (in.)
<b>Type SW — Silicon bronze split lock washers</b>					
14030SW-C	¼	-	-	-	-
31030SW-C	⅝	-	-	-	-
37030SW-C	¾	-	-	-	-
50030SW-C	½	-	-	-	-
<b>Type FW — Silicon bronze flat washers</b>					
14040FW-C	¼	¼	11/16	0.260	0.040
31040FW-C	⅝	⅝	7/8	0.336	0.064
37040FW-C	¾	¾	1	0.395	0.064
50040FW-C	½	½	1¼	0.562	0.091
<b>Type BW — Belleville compression washer 304 series stainless steel</b>					
50050BW-C	½	1⅝	17/32	0.062	1/8

## Accessories and miscellaneous hardware

### Sealants and lubricants



#### Type CT — CONTAX™ oxide inhibiting compound

- Seals electrical connections from oxygen and moisture
- Non-water soluble, non-petroleum based polymer grease
- Nontoxic, will not irritate the skin
- Service temperature to 238 °C (460 °F); can be applied in -18 °C (0 °F) weather

Cat. no.	Description
CTA	½ oz. Package
CTB	4 oz. Plastic bottle
CTB8	8 oz. Plastic bottle
CTQ	Quart can
CTG	Gallon can



#### Type DX — Duct seal

- Seals around junction boxes, flashings, service mast entries, service cable entries and countless other applications
- Easy to use, forms around irregular surfaces and configurations
- Highly resistant to cracking, drying and shrinking
- Cuts and trims easily
- Can be painted immediately after application
- Grey colour
- No unpleasant odor
- -6.7 °C to 100 °C (20 °F to 212 °F) workable temperature range
- -40 °C to 121 °C (-40 °F to 250 °F) service temperature range
- Contains no asbestos

Cat. no.	Description
DX-1	1 lb Slug
DX-5	(5) 1 lb Slugs
DX-5S	5 lb Slug



#### Silicone lubricant for high voltage electrical work



Cat. No.	Description	Pkg. qty.
2012	2 grams	250 tubes
2015	5 grams	100 tubes
SL5	5 oz./142 grams	12 tubes



#### Type WW — Wire bristle brush

- Removes oxides from conductor surfaces
- Easy-grip handle with guard to prevent rubber-glove puncture
- Replaceable long-life brushes can be rotated
- Handle and guard coated with durable, nonconductive plastic for safety

Cat. No.	Description	Pkg. qty.
WWB1	Complete brush with handle	1
WRB1	Brush replacement	1