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## Solutions for Precision Extrusions

### ZYP COATINGS SOLUTIONS FOR PRECISION EXTRUSIONS

#### Boron Nitride Coatings

- Prevent Sticking, Welding, Oxide Buildup
- Provide Lubrication to Enable Defect-Free “Cosmetic Surfaces”

#### Use Areas

##### I. Ends of Billets

Coating the butt or face end of billets stops billet-to-billet sticking as the billets are pushed through the furnace.

##### Recommended Coatings

- a. Water-based = [BN Releasecoat](#) for hot or cold application, generally by air-spraying
- b. Solvent-based = [BN Aerosol Lubriccoat](#) used for coating cold billets (away from the heat of the process – i.e., before extrusion)

##### II. Billet Overall Coating

Coating the length of billet allows lubrication to preventing welding/sticking, acting as a parting agent as the metal is pushed through the furnace.

##### Recommended Coating

Water-based [BN Releasecoat](#) for hot or cold application, generally by air-spraying

##### III. Dummy Block Coating

Coating (lightly) hot dummy blocks, generally by air-spraying, reduces buildup/flashing

##### Recommended Coatings

- a. Water-based [BN Hardcoat](#)
- b. Water-based [BN Hardcoat CM](#) (less volatiles)

##### IV. Dies

Coating the die face (lightly) prevents sticking of the billet butt to the die. Coating between dies allows the dies to ‘float’ and eliminates ‘tool snap’.

##### Recommended Coatings

- a. Water-based [BN Hardcoat](#)
- b. Water-based [BN Hardcoat CM](#) (less volatiles)

#### Coatings

- I. **Boron Nitride Releasecoat** can be used ‘as is’ or diluted with water, as much as two parts water to one part of coating. BN Releasecoat is ideal for coating hot or cold billets, ends or overall, to give lubrication and ease the processing by preventing sticking/welding of the billets to dies or dummy blocks and extrusion containers. This coating produces no contamination, blistering, or inclusions. BN Releasecoat is applied like ordinary housepaint by air-spraying or brushing.
- II. **BN Hardcoat** or **BN Hardcoat CM** is designed to be used without dilution. Hardcoat is ideal for coating dummy blocks and die faces to prevent sticking over many ‘campaigns’. The coating is also applied like housepaint by air-spraying or brushing.
- III. **BN Aerosol Lubriccoat** is a solvent based, aerosol-can product that is ideal for coating billet ends before they are put into extrusion. The ‘bulk’ version ([BN Aerosol Brushable](#)) can also be used in place of the aerosol-can version and can be diluted with ethyl alcohol or acetone, if desired. These are flammable (shipped as “HAZ”) and should be handled/applied away from the hot extrusion areas.

### **Advantages Over Carbon Smutters**

The Boron Nitride coatings are not messy like smutters and, after applied, do not smoke or burn like carbon/graphite/oil based lubricants. The BN coatings also are more effective in enabling cosmetic, defect-free extrusions. Boron Nitride is cost effective due to less extrusion defects/waste and more trouble-free operation with less post-extrusion processing.

### **Powder**

Some extruders use electrostatic sprayers to coat their billets and parts for extrusions, generally applying the Boron Nitride powder to the billet ends, dummy block, and other areas to prevent sticking.

**Recommended**

**[BN POWDER ZG](#)**