Machining of Boron/Epoxy Composites

Boron-epoxy composites can be machined by all standard methods.

- Drilling
- Profile Machining
- Grinding
- Cutoff
- Slitting

The following conditions are recommended for optimal machining of boron epoxy composites:

- All parts should be fully supported to prevent ply delaminating

- **Materials**
  - Metal-bonded or resin-bonded diamond tooling and cutting wheels are best
  - Silicon carbide and alumina wheels can be used

- **Coolant**
  - Dry cutting is possible, but flooding with water-based coolant extends cutting tool life
  - Coolants should be used for grinding to prevent matrix degradation

- **Speeds**
  - Cutting speeds should range from 1900 to 3100 surface feet per minute
  - In-feed rate for cutoff and slitting can be as high as 4 to 6 inches per minute
  - Grinding speeds should range from 3000 to 8000 surface feet per minute