



**THE FORERUNNER  
IN SPECIALTY METALS**

### **Machining Popular ELKONITE® Materials**

In the application of ELKONITE® for electrical discharge machining (EDM) and THERMKON® for the electronic semiconductor industry the following are recommended practices for machining materials into their final shapes.

Principal materials for these applications are:

ELKONITE® 10W3	THERMKON® 83
ELKONITE® 20S	THERMKON® 76
ELKONITE® G14	THERMKON® 62

#### Cutting Tools:

Carbaloy, grade 883 or equivalent.

Grind tools with 0° rake, 8° to 12° clearance, and .010 to .125" nose radius. The nose radius can increase with the size of the work. Suggest resting stone on work when honing the tool.

#### Turning and Boring:

Roughing: 0.030" depth of cut  
0.020" feed  
Finishing: 0.002 to 0.005" depth of cut  
0.001 to 0.002" feed  
Turning Speed: 300 surface feet per minute  
Do not use lubricants or coolant.

#### Shaping:

Tool Speed: 43" per minute, except for Elkonite® G-14 and Thermkon® 62  
which require slower speed (25" per min).  
Depth of cut: 0.030"  
Feed: 0.020" per stroke

#### Milling:

Parameters: 0.5" wide x (up to) 0.5" deep cut  
Spindle Speed: 395 RPM  
Table Feed: 8" per minute

#### Grinding:

Use 80 grit resin bonded wheels of medium hardness.  
0.015" per pass on Elkonites® 20W3 and 20S  
0.005" per pass on Elkonite® G-14 and Thermkon® 62.  
Use a water soluble coolant.

#### Drilling and Tapping:

Use carbide micro-grain drills for best results. Use spiral point taps. coated taps are recommended. Rigidity is important.