

**technical**  
**DATA**

Latrobe Plant  
Electronics Division  
Latrobe, Pennsylvania

**CARBORUNDUM**

100EB 3  
Issue 4

MACHINING OF KOVAR<sup>®</sup> ALLOY

Kovar<sup>®</sup> machines readily at slow speeds with high speed or tungsten carbide tools when properly lubricated.

Feed

Use same rules as normally applied to Monel Alloy R-405. With carbide tools, satisfactory results were obtained at 155-225 S.F.M., .005" per revolution feed and depth of cut .010".

Further details on machining Monel Alloy R-405 are given in Bulletin T-12 "Machining Nickel Alloys" of the International Nickel Company, Inc., Huntington Alloy Products Division, Huntington, West Virginia.

Lubricant

Lard oil or commercial coolant, such as Socony-Mobil Oil Company "Vacmul N-5 (4 to 7% sulphur)" or Carbide & Carbon Company "UCON-660" or Fiske Refining Company "S-277 (sulphur free mineral oil)".

Tools

High speed material, such as "Rex-95".

Tungsten Carbide - such as Kennametal Grade  
K-6 or K-3H

Tool Clearance

Side Clearance Angle	- 10° - 12°
Front Clearance Angle	- 8°
Back Rake Angle	- 12° - 14°
Side Rake Angle	- 12° - 14°

These angles are typical, but vary considerably by conditions of each individual job.