

HIGH POWER CORRUGATED WAVEGUIDE COMPONENTS

Corrugated Waveguides



- General Atomics (GA) produces corrugated waveguides up to 2.13 meters long
- Frequency range 28 to 300 GHz
- Standard inner diameters of 1.25", 2.375", 2.5" and 3.5"
- Transmitted powers up to 2 MW continuous wave, depending on diameter and frequency

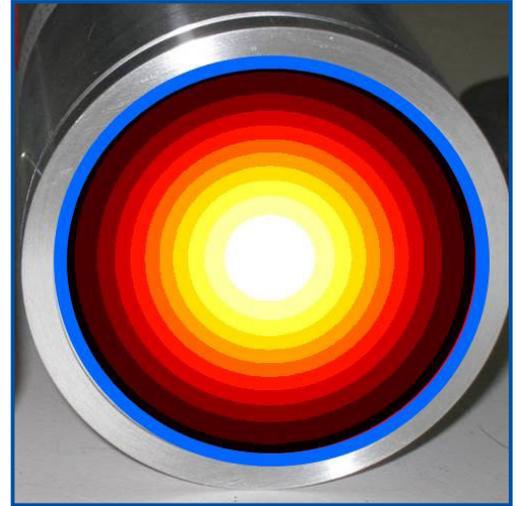
Precision-machined for accurate alignment and low-loss transmission

CORRUGATED WAVEGUIDES

GA has the scientific, engineering and fabrication expertise to design and deliver standard and specialized corrugated waveguides.

HIGH POWER CORRUGATED WAVEGUIDES:

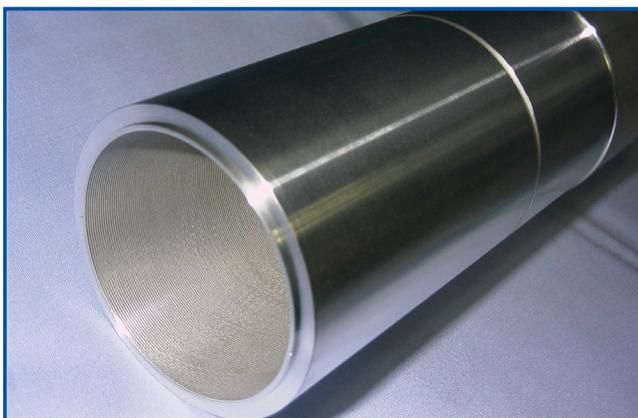
- Precision corrugation of waveguide interior for low-loss transmission
- Ohmic losses for HE_{11} transmission are very low (250 W per meter for 1 MW, 170 GHz transmission in 2.5" (63.5 mm) aluminum waveguide)
- Typically designed to allow broadband transmission (110-170 GHz in 2.5" waveguide)
- Most commonly used material is aluminum, but stainless steel and copper waveguides can also be corrugated



Corrugated waveguide with HE_{11} beam mode represented

PRECISION END MACHINING AND WAVEGUIDE COUPLINGS:

- Waveguide ends machined for accurate alignment of waveguide connections using GA couplings to minimize mode conversion
- Evacuated waveguides use Helicoflex® all-metal vacuum seals



Precision end-machining for accurate waveguide alignment



Light weight extruded coupling for 2.5" waveguide