NEW SOURCE TECHNOLOGY LLC

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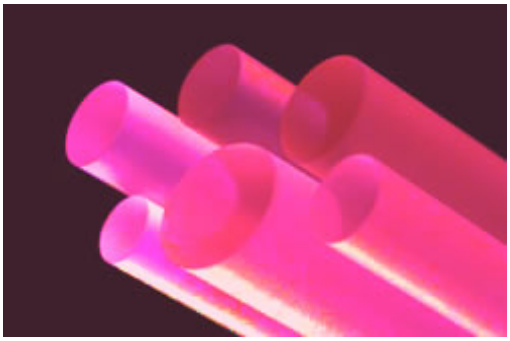
RUBY RODS

Ruby laser material combines excellent physical and optical properties with ideal laser performance characteristics. The thermal conductivity of the aluminium oxide host is superior to all other solid state laser host. It is very hard, chemically inert, and can be fabricated and polished to demanding specifications.
Commercial lamps effectively pump Ruby's broad absorption bands to produce a 694.3 nm output, characterised by a long fluorescent lifetime and large energy storage and gain.



Applications

- High - power Q - switched systems, capable of creating the energy densities needed to generate Thomson scattering in plasma diagnostics.
- High - brightness holographic camera systems with long coherent length.
- High - power systems useful for frequency doubling into the UV spectrum.
- Laser metal working systems capable of drilling holes in hard materials.
- Medical laser systems used for cosmetic dermatology and tattoo removal.

Material Parameters

Host crystal	Al_2O_3
Lattice type, symmetry, space group	Corundum, trigonal, R3c
Hardness (Mohs)	9
Dopant concentration (Nd^{3+})	0.03 to 0,05 wt% Cr_2O_3
Crystallographic orientation	60° to c-axis, other orientations on request
Index of refraction (794 nm)	~ 1,71

Laser Elements

Laser rods with length up to 150 mm, diameter 1 to 12.7 mm (standard specifications); Dopant concentrations on request.

Coatings

Upon request.

For more details, contact sales@newsourcetechnology.com
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