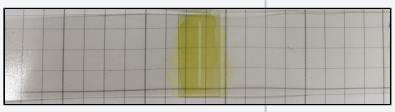
Laser Welding OLD

LASER TRANSMISSIVE MATERIALS

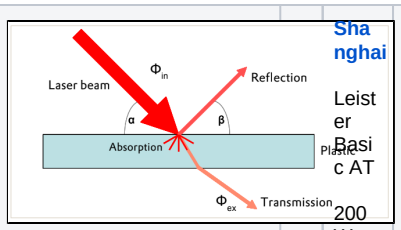
Commercial Laser Transmissive "Black" Grades	Thicknesses	Absorbing Layer
R-3-410BL LZT	1mm	R-4-270BL, BR11BL
	1.5mm	R-4-270BL, R-4-240BL
	2mm	R-4-270BL, R-4-240BL
A-1130 HS LZT BK979	1mm	A-1625 HS BK324
	2mm	A-1625 HS BK324
AE-8940 LZT BK979	1mm	AE-8940
	2mm	AE-8940
A-1145 HS LZT BK979	1mm	A-1625 HS BK324
	2mm	A-1625 HS BK324
AE-8930 LZT (inactive)	1mm	AE-8935, AE-8940, AE-8950, AE-9933, AE-9950
	2mm	AE-8935 BK

Laser Welding Transmissive on Transmissive using "clearweld" dye



THEORY, KNOWLEDGE, & MODELS

Introduction to Laser Welding

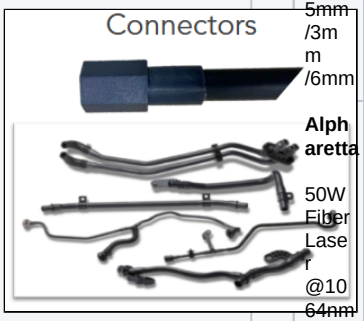


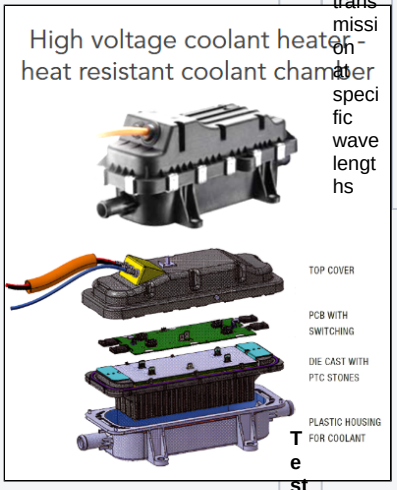
Laser Welding Database

Ongoing updated database that contains historical data, laser settings, laser transmission values, etc

Target Applications

Hermetically sealed parts, electrical connectors, sensors, switches, e-water pump, e-ATF pump, slot liners





CAPABILITIES

Equipment

Shanghai Leister Basic AT 200W Fiber Laser @1070nm

Spot size: 0.6mm/1mm/1.5mm/3mm/6mm

Alpharetta 50W Fiber Laser @1064nm

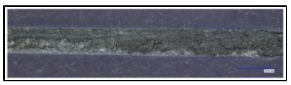
Spot size: 1mm

Laser Transmission measuring % transmission at specific wavelengths

Alpharetta: Perkin Elmer Lambda 950

Shanghai: LPKF TMG3

Testing

	Weld Strength Lap shear testing for weld strength	
	Microscopy Imaging to analyze cohesion at weldline	

Laser Welding Team			
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