

# LASER PLASTIC WELDING MATERIAL COMPATIBILITY CHART

Laser plastic welding uses a precise infrared laser beam that is transmitted through a transmissive material and absorbed by an absorptive material. The two materials are held in tight contact with each other and the joint between them heats up and melts as energy from the laser is absorbed. The result is a clean weld with minimal flash. The chart below shows which materials are known to be compatible with each other. Please note: weld compatibility depends on the absorption and transmissivity of the materials.

	ABS	ASA	MABS	PA 6	PA 6/6	PA 12	PBT	PBT/ASA	PC	PC/ABS	PE-LD	PE-HD	PEEK	PES	PET	PMMA	POM	PP	PPS	PS	PSU	PVC	SAN
ABS	★	★	★				★	✓	★	★				✓	★	★				✓	✓	★	★
ASA	★	★					★	★	★	★						★					★	★	★
MABS	★		★																				
PA 6				★	★	★																	
PA 6/6				★	★	★																	
PA 12				★	★	★																	
PBT	★	★					★	★	★					✓	★	★				★	★	★	★
PBT/ASA	✓	★					★	★	★					✓							✓		
PC	★	★					★	★	★	★				★	★	★				✓	✓	★	★
PC/ABS	★	★							★	★						★							
PE-LD											★	✓	✓		✓	✓		★		✓			
PE-HD											✓	★				✓		★					
PEEK											✓		★	★		✓					✓	✓	✓
PES	✓						✓	✓	★				★	★							★		
PET	★						★		★		✓				★							✓	✓
PMMA	★	★					★		★	★	✓	✓	✓			★				✓	★	★	★
POM																★							
PP											★	★					★						
PPS																		★					
PS	✓						★		✓		✓					✓				★	✓	✓	✓
PSU	✓	★					★	✓	✓				✓	★		★				✓	★	✓	★
PVC	★	★					★		★				✓		✓	★				✓	✓	★	★
SAN	★	★					★		★				✓		✓	★				✓	★	★	★

Source: Laser Welding of Plastics by Dr. Rolf Klein



Strong Weld



Mild Weld



No Weld



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