

Marking

Marking of ABS Black Plastic

Lasers are widely used to mark a diverse range of plastic materials but results can be highly dependent on the type of plastic. ABS is a commonly used material particularly in automotive and engineering applications.

The ability to produce high quality marks on this material is often difficult and dependent on the colour and composition. On black ABS users are looking for crisp white, high contrast marks and these are often difficult to achieve, particularly with long high energy pulses which tend to melt the matrix causing unwanted surface texture and dilute the contrast.

With the short 3ns pulses available on our redENERGY 20W EP-Z Pulsed Fiber Laser the high peak power is able to create the contrast but due to the low pulse energy melting of the matrix can be avoided.

These marks should be made at high speeds to minimise spot overlap and hence over all heat input. Subsequent passes can help increase the contrast and the sample shown was created with a total of 4 passes with a coverage of over 30mm²/s.

Note: it is always advisable to test the marking characteristics of plastics as variations in results can often be seen.

Related Product



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redENERGY G4



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Application Parameters

Type	G4 20W EP-Z
Power	10W
M ²	<1.6
Beam Ø	8mm
Scanner/Lens	10mm aperture / 163mm F – theta 3.5m/s
Energy	WF31 0.03mJ @300kHz