Marking

Hallmarking

Hallmarks are a series of official marks struck on items of precious metal and can be found on all pieces of gold, silver and platinum jewellery. Traditionally hallmarks were struck with steel punches but today they are more commonly made by Laser marking and engraving.

The Laser is especially useful in marking delicate items or hollowware which would be damaged or distorted by the punching process. These marks can either be produced in 2D generating simple patterns while with 3D marking engraved marks can be made that more closely simulate traditional punched marks.

A broad range of Lasers can be used for this application, but the redENERGY 20W RM-Z is most commonly used in conjunction with a 163mm F-theta lens. The process is extremely quick taking <1s to produce a simple logo and some alphanumeric characters.

The marking is typically a 2 pass process where the main mark is made using low speed (400mm/s) with high pulse energy (0.8-1mJ at low rep rate (20kHz). The mark is then subsequently cleaned by a faster (4000m/s) higher frequency (100kHz) lower pulse energy (<0.2mJ) cleaning pass to remove debris and discoloration.

Application Parameters

Type	G4 20W RM-Z
Power	20W
M^2	<1.6
Beam Ø	RM
Scanner/Lens	8mm (F75)
Energy	1mJ