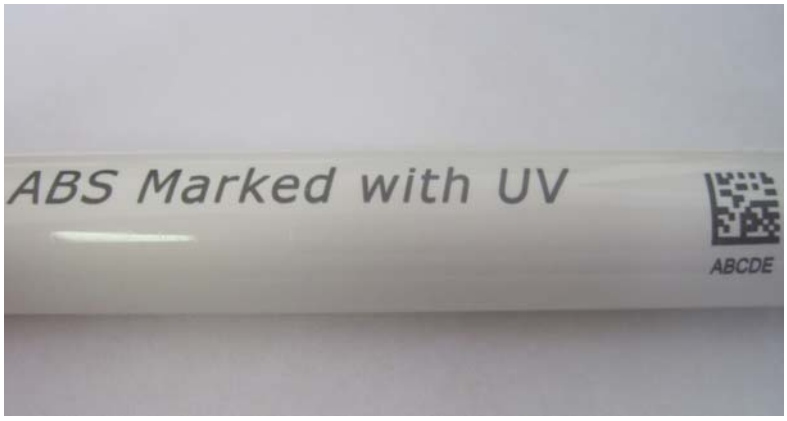
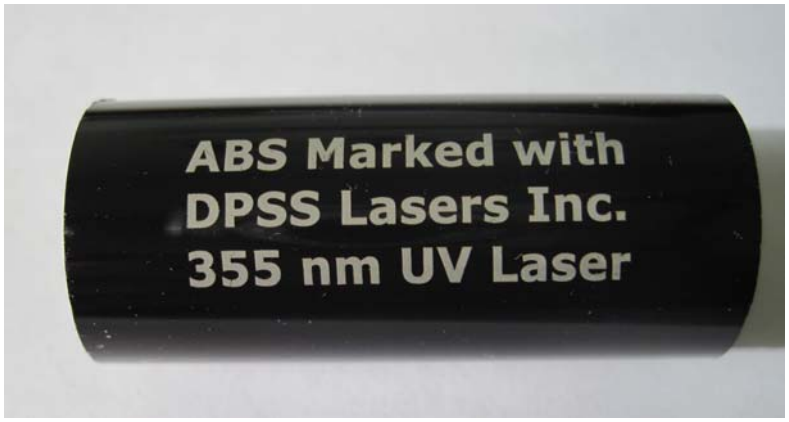
DPSS Lasers

Bringing Light to Applications

Application Note

355 nm DPSS LASER MARKING OF ABS





ABS, acrylonitrile butadiene styrene is a light, rigid thermoplastic. It is often used to manufacture piping, musical instruments, automotive body parts, medical cases, protective headgear and golf club heads. It is most often chosen because of its high impact resistance, hardness, high gloss, slippery surface and electrical insulation properties.

Most ABS is translucent, ivory or white. The use of ABS in many of its applications presents a challenge for permanent marking. Labels and inks are often not durable and IR laser marking usually results in low contrast melt of the ABS.

DPSS 355 nm UV lasers are able to affect a mark on many types of ABS via a photochemical or photo-bleaching process. This “Cold Marking” process eliminates the thermal damage typically encountered with longer wavelength lasers. The resulting mark becomes a permanent part of the product and requires no inks or solvents. Because many plastics are extremely sensitive to UV wavelengths, marking speeds of 3 to 5 meters per second are achievable with UV powers as low as a few hundred mW.

Laser Model	Average Power	Rep Rate	Scan Rate
3510-30	1 Watt @ 355 nm	30kHz	3 to 5 meters / sec

2525 Walsh Ave., Santa Clara, CA 95051 Ph 408.988. 4300 Sales@DPSS-Lasers.com

WWW.DPSS-Lasers.Com