

LASER APPLICATION NOTE 2240

TELESIS

ProScript[®]

Application:

Automotive and Railroad Bearings



Mark depth:

0.0001 to 0.005 inch (0.00254 to 0.127 millimeters)

Material:

Bearing Steel

Mark Type:

Alphanumeric, Logo

Cycle Time:

Varies for mark type. Typically less than 10 seconds

Laser Advantage:

Permanent high quality, with high mark speed and ease of integration of logos and serialization. The laser produces little or no micro-fracturing of this eggshell thin material.

Recommended Laser: ProScript Nd:YAG 75 Watt or higher

Process Notes:

ProScript Nd:YAG causes surface darkening by annealing which does not result in a raised (recast) area around the mark. Deeper mark requires penetration by cutting, which will leave a slightly raised area around the mark. On critical bearing surfaces that cannot tolerate a recast the annealing mark works best. Surface disruption only with a light matte finish on the stainless may also be possible but is much less permanent. A slight amount of protective oil on the part before laser marking actually aids in surface darkening.