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Gold Coated Mirrors for High Power Fiber Lasers (1 – 1.2um)

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It's still early days for high power fiber lasers, (i.e. 1 - 1.2um wavelength 1KW +) and not many of them use mirrors anyway.

The standard solution most people would think of would be a fused silica glass mirror with a high reflectivity coating ($R > 99.8\%$). With high power, any speck of dust or a fingerprint and the mirrors rapidly fail. Where fused silica mirrors are used, they are assembled in the mounts / cutting head, etc. in a high level clean room, and the beam delivery system is then sealed for life.

That is not often practical. Laser Beam Products is find users choosing their Gold coated mirrors with high power fiber lasers despite their lower %R (typically 98%) because they will survive in non-laboratory conditions.

Rather than debate all the technical ins and outs, point people to the 10KW and 30KW Ophir power meters, and point out the reflective cones that are used to disperse the beam. Laser Beam Products makes them, and they are gold coated copper.