LASER OPTICS COATING SELECTION

For help customer to select proper coating types,we have breakdown as below,which will show you all advantages and disadvantages of every coating types:

Coating types	Advantages	Disadvantages
Aluminum coating	1).Low cost 2).Reflectance performance is flat, broad and highly 3)Has less sensitivity to wavelength and incident angle.	a).Mechanical hardness of each coating surface is not large. Though Al+MgF2 coating can be cleaned with an organic solvent, bare Al coating can only be cleaned with a gentle stream of air due to its softness. (Al+SiO coating can be cleaned lightly.)
Enhanced aluminum coating	1).Improves reflectance by about 5% by replacing the normal aluminum protective coating with a multilayer coating. 2).Dielectric multilayers for mechanically stronger coating.	a).Narrower reflection zone than aluminum coatings. b). Dependent on polarization and angle, similar to dielectric multilayers.
Gold coating (Cr+Au)	1).Has less sensitivity to wavelength and incident angle. 2). Useful as an IR mirror, which has broad high reflectance region beyond FIR.	a).Since gold surface is exposed without protective coating, mechanical hardness is extremely weak and therefore should only be cleaned by a gentle stream of air.
Dielectric-multilayer coating (dielectric multilayer)	1).Features high reflectance; close to 100%. 2). Mechanically stronger coating. 3). Suitable for powerful lasers.	a).Narrower reflection zone and greater dependency on incident angle of light (the reflection zone varies with changes in incident angle). The reflection wavelength or reflection zone and incident angle must be specified before mirrors with dielectric-multilayer coatings are produced. b). The wavelength region and reflectance of reflected light vary according to incident light polarization, except normal incidence (0° incidence).
High-power laser coating	1).Higher laser damage threshold than conventional dielectric-multilayer coatings.	a).Same as for dielectric-multilayer coating.

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- Please contact us for any question of coating selection.