

LASER OUTPUT COUPLERS

FEATURES

- Low Group Delay Dispersion

An output coupler is a partially reflecting dielectric mirror used in a laser cavity. It transmits a part of the circulating intracavity power for generating a useful output from the laser.

A low transmission output coupler leads to low laser threshold and possibly to poor laser efficiency if the losses due to output coupling do not dominate other parasitic losses in the laser cavity. The output coupler transmission is often chosen to maximize the output power, although its optimum value may be lower or higher if there are other design purposes (minimizing intracavity intensities or suppressing Q-switching instabilities in a passively mode-locked laser).

The standard substrates are parallel within 30 arcsec. If you need wedged substrates, please, choose from chapter Wedge Prisms (page 1.51).

COATING

Technology	Electron beam multilayer dielectric
Adhesion and Durability	Per MIL-C-675A. Insoluble in lab solvents
Clear Aperture	Exceeds central 85% of diameter
Angle of Incidence	0 – 8°
Parallelism	30 arcsec
Back side antireflection coated	R < 0.25%
Laser Damage Threshold	> 100 mJ/cm ² , 50 fsec pulse, 800 nm typical

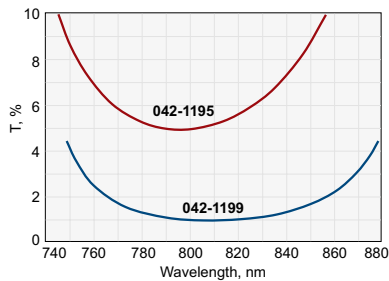
SUBSTRATE

Material	UV grade Fused Silica
S1 Surface Flatness	λ/10 typical at 633 nm
S1 Surface Quality	20–10 scratch & dig (MIL-PRF-13830B)
S2 Surface Flatness	λ/10 typical at 633 nm
S2 Surface Quality	20–10 scratch & dig (MIL-PRF-13830B)
Diameter Tolerance	+0.00 mm; -0.12 mm
Thickness Tolerance	±0.25 mm
Parallelism	< 30 arcsec
Chamfer	0.3 mm at 45° typical

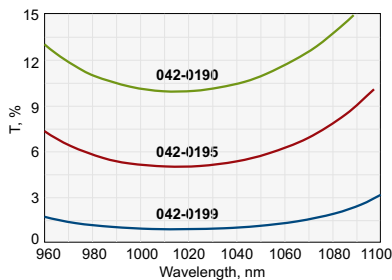
Wavelength, nm	Reflection, %	Transmission, %	Ø12.7x3 mm		Ø25.4x3 mm		Ø50.8x8 mm	
			Catalogue number	Price, EUR	Catalogue number	Price, EUR	Catalogue number	Price, EUR

Substrate material: UV grade Fused Silica

1030	50±3	50±3	041-0150	105	042-0150	125	045-0150	205
1030	60±3	40±3	041-0160	105	042-0160	125	045-0160	205
1030	65±3	35±3	041-0165	105	042-0165	125	045-0165	205
1030	70±3	30±3	041-0170	105	042-0170	125	045-0170	205
1030	75±3	25±3	041-0175	105	042-0175	125	045-0175	205
1030	80±3	20±3	041-0180	105	042-0180	125	045-0180	205
1030	85±3	15±3	041-0185	105	042-0185	125	045-0185	205
1030	90±2	10±2	041-0190	112	042-0190	132	045-0190	220
1030	95±2	5±2	041-0195	112	042-0195	132	045-0195	220
1030	97±1	3±1	041-0197	119	042-0197	139	045-0197	245
1030	98±1	2±1	041-0198	119	042-0198	139	045-0198	245
1030	99.0±0.5	1.0±0.5	041-0199	126	042-0199	146	045-0199	255
800	50±3	50±3	041-1150	105	042-1150	125	045-1150	205
800	60±3	40±3	041-1160	105	042-1160	125	045-1160	205
800	65±3	35±3	041-1165	105	042-1165	125	045-1165	205
800	70±3	30±3	041-1170	105	042-1170	125	045-1170	205
800	75±3	25±3	041-1175	105	042-1175	125	045-1175	205
800	80±3	20±3	041-1180	105	042-1180	125	045-1180	205
800	85±3	15±3	041-1185	105	042-1185	125	045-1185	205
800	90±2	10±2	041-1190	112	042-1190	132	045-1190	220
800	95±2	5±2	041-1195	112	042-1195	132	045-1195	220
800	97±1	3±1	041-1197	119	042-1197	139	045-1197	245
800	98±1	2±1	041-1198	119	042-1198	139	045-1198	245
800	99.0±0.5	1.0±0.5	041-1199	126	042-1199	146	045-1199	255



042-1199. PR = 99±0.5% @ 800 nm, T = 1±0.5%
042-1195. PR = 95±2% @ 800 nm, T = 5±2%



042-0199. PR = 99±0.5% @ 1030 nm, T = 1±0.5%
042-0195. PR = 95±2% @ 1030 nm, T = 5±2%
042-0190. PR = 90±2% @ 1030 nm, T = 10±2%

RELATED PRODUCTS

Uncoated Elliptical Mirrors
See page 1.10

Kinematic Mirror and Beamsplitter Mount 840-0020
Find more at EksmaOptics.com

