

Output Coupler

Partial reflectors are commonly used as laser output couplers or beam attenuators. For your convenience, our maintains commonly used coatings and substrate radii of curvature in inventory. For available special substrate sizes and coatings, please contact our sales representative for a quotation. Laser output couplers often require a slightly wedged substrate to eliminate interference from multiple reflections inside the component. If you require a specific wedge value, please specify this when ordering.



PN	Material	Diameter (mm)	Edge Thickness (mm)	Reflect- ivity (%)	Radius** Side1/side2
988175	ZnSe	25.4	5.99	65%	30MCC/30MCX
774314	ZnSe	25.4	5.99	50%	PO/PO
132098	ZnSe	27.9	5.59	50%	20MCC/15MCX
346822*	ZnSe	30.0	5.99	50%	30MCC/30MCX
554288	ZnSe	38.1	5.99	30%	10MCC/10MCX
187879	ZnSe	38.1	5.99	UC	10MCC/15MCX
120765	ZnSe	38.1	5.99	30%	20MCC/PO
697996	ZnSe	38.1	8.00	60%	35MCC/15MCX
903007	ZnSe	50.8	7.62	48%	30MCC/20MCX

* MP-5 type coating

** M is meter, CC is concave, CX is convex, PO is plano

Dimensional Tolerance	Diameter	+0.000"/-0.005"
	Thick. (plano)	+0.005"-0.010"
	Thick. (radiused)	±0.010"
Parallelism	Plano	≤3 arc min.
	Radiused, dia<1"	≤10 arc min.
	Radiused, dia>1"	≤5 arc min.
Clear Aperture (polished)	90% of diameter	
Scratch-Dig	20-10	
(Side1)	1% to 5%	: ±0.5% x R
Reflectivity Tolerance at 10.6um	6% to 85%	: +3%
	86% to 95%	: +1.5%
	96% to 98%	: 1%
	99%	: +0.2%
	99.5%	: +0.2%
(S2) AR reflectivity at 10.6um	≤0.20%	

Real Mirror

Rear mirrors, typically GaAs, Ge, or ZnSe, are partial reflectors with a very high reflection-to-transmission ratio (99.0% to 99.7%), and are key optical components in laser resonators or laser cavities. Rear mirrors, like output couplers, are a part of the lasing process. Thus, high reflectivity is desired. The rear mirrors slight transmission is used in conjunction with power meters to test for laser resonator output power. When laser resonator designs require rear mirrors to be total reflectors, Si, Cu, or Mo substrates are used, the latter being typically uncoated.



PN	Material	Diameter (mm)	Edge Thickness (mm)	Reflect- ivity (%)	Radius** Side1/side2
234709	Ge	25.40	5.99	99.50%	15MCC/PO
722287	Ge	27.94	5.59	99.50%	20MCC/PO
447118	Ge	27.94	5.99	99.50%	20MCC/PO
432529	Ge	29.99	5.99	99.60%	30MCC/PO
347102	Ge	38.10	8.00	99.50%	35MCC/PO
766409	Ge	50.80	9.53	99.50%	30MCC/PO
536364	GaAs	25.40	5.99	99.70%	30MCC/PO
230089	GaAs	37.94	3.05	99.70%	20MCC/PO
911209	ZnSe	38.10	5.99	99.00%	20MCC/PO

** M is meter, CC is concave, CX is convex, PO is plano

Dimensional Tolerance	Diameter	+0.000"/-0.005"
	Thick. (plano)	+0.005"-0.010"
	Thick. (radiused)	±0.010"
Parallelism	Plano	≤3 arc min.
	Radiused, dia<1"	≤10 arc min.
	Radiused, dia>1"	≤5 arc min.
Clear Aperture (polished)	90% of diameter	
Scratch-Dig	20-10	
(Side1)	99%	: +2%
Reflectivity Tolerance at 10.6um	99.5%	: +0.2% / -0%
	99.7%	: +1% / -0.1%
(S2) AR reflectivity at 10.6um	≤0.20%	