

SILICON MIRRORS - PMR, DUAL & PFM

**Introduction**

Special-purpose Si mirrors are detailed in this section. All-purpose mirrors for 10.6µm with high reflectivity and near-zero phase shift when used at 45 degrees incidence are described in data section 15.10.

In addition to the special-purpose mirrors described here, Umicore Laser Optics can manufacture Si mirrors to customer specifications, with coatings for other wavelengths.

**Available products, PMR coated Si mirrors**

The PMR, pulsed max-R, coating is designed for use on mirrors for pulsed ‘TEA’ CO2 lasers. Only one size of mirror is standard. Other sizes can be made to order.

<u>Table 15.201</u>				
<b>Dia. (mm)</b>	<b>T (mm)</b>	<b>Radius</b>	<b>Coating</b>	<b>Part Number</b>
50.0	5.0	14.0m	PMR	SI5014P

### Available products, 'Dual' coated mirrors

The 'Dual' coating is intended for use on Si mirrors where high reflectivity is required for both CO<sub>2</sub> and visible light. Typical values are R(10.6μm) > 99%, R(633nm) > 97%.

Applications include use in articulated arms (medical lasers).

<b>Table 15.202</b>				
<b>Dia. (mm)</b>	<b>T (mm)</b>	<b>Radius</b>	<b>Coating</b>	<b>Part Number</b>
15.0	4.0	Flat	Dual	5.9SID4-00
19.0	3.0	Flat	Dual	7.5SID3-00
20.0	4.0	Flat	Dual	7.9SID4-00
25.0	3.0	Flat	Dual	9.8SID3-00
25.4	3.0	Flat	Dual	10SID3-00
38.0	4.0	Flat	Dual	15SID4-00

### Available products, 'PFM' polarization-forcing mirrors

The PFM coating is designed to give high in-cavity reflection for S-pol, with low reflectivity for P-pol., at 45 deg. incidence.

Mirrors of this type force the laser to emit linearly polarized radiation.

<b>Table 15.203</b>				
<b>Dia. (mm)</b>	<b>T (mm)</b>	<b>Radius</b>	<b>Coating</b>	<b>Part Number</b>
25.4	3.0	Flat	PFM	10SIF3-00
25.4	5.0	Flat	PFM	10SIF5-00
38.0	4.0	Flat	PFM	15SIF4-00
38.1	6.0	Flat	PFM	15SIF6-00
50.8	10.0	Flat	PFM	20SIF10-00