

coupling prisms

4 types of coupling prisms are available; right angle, isosceles, doubles and cylindricals. Their index of refraction must be higher than the refractive index of the waveguiding material. They are made from ordinary high index glasses like SFL57 from Schott or S-TIH53 from OHARA, with a refractive index well over 1.8 in the visible range of optical spectrum. These are standard glasses and we will gladly provide all the information on this glass if needed. In m-line spectroscopy, the exact value of the base angle is important and it is specified for each prism. The prism can be provided alone or glued to stainless steel holder that can be easily attached to the coupling clip.

Right angle : Right angle coupling prisms are used to couple light in or out of the waveguide over the small coupling region. The base angle of 55° is selected to yield most favourable coupling conditions for most waveguide applications.

Isosceles : The isosceles coupling prisms are used to couple light in and out of the planar waveguide over the small coupling region. The base angle of 55° is selected to yield most favourable coupling conditions for most waveguide applications.

Double : Double coupling prisms are used to couple laser light in and out of planar waveguides using just one “wet spot”. Their index of refraction of the prism must be higher than the refractive index of the waveguiding material. Using m-line spectroscopy experiments, it is possible to determine refractive index profile of the homogeneous and inhomogeneous waveguide material.

Cylindrical : Cylindrical coupling prisms are used to couple narrow collimated beam light in all waveguide modes without the need to scan the beam over different angles. This is achieved by virtue of cylindrical surface at the bottom of the prism. Instead of “wet spot” characteristic for coupling prism with a flat coupling surface, in this case we can observe “wet line”.

Major application is in m-line spectroscopy experiments used to determine refractive-index profile of the waveguide material. Using cylindrical prism as input prism and right angle prism as output prism it is possible to measure attenuation of the waveguide material by placing them at different distances and measuring total insertion loss.

| WEBCODE: | | D174-xxx | | | | | | |
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| DRAWING | | | | | | | | |
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| SPECIFICATIONS | SYMBOL | VALUE | | | | | | |
| Type | | Right Angle | - | Isocele | - | Double | - | Cylindrical |
| Material | | | | SFL57 | - | STIH53 | | |
| Base Angle | | 55° | | | | | | |
| Dimensions | | customized | | | | | | |
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| NOTE | | All specifications are customized upon request | | | | | | |