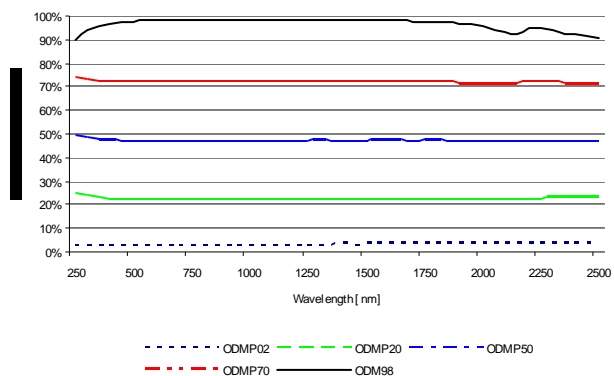# ODMP - Optical Diffuse Material (OP.DI.MA.) Pigmented

OP.DI.MA. is a specially processed PTFE material which works as a translucent reflector. This means that radiation will enter into the material and reflect from many interfaces within the material itself. This results in a nearly perfect diffuse reflection. ODMP is a special form of the PTFE material pigmented with black additives. Depending on the density of the additive, gray scale optically diffuse material with different reflectance values can be formed.

ODMP is supplied as raw material in block and plate form. The surface of the raw material must be machined to obtain an optical finish without gloss effects. It can be re-machined and cleaned prolonging its operational life. Machining ODMP is not difficult for those with some experience with processing plastics. All machining methods such as lathe work, drilling, sawing, milling, etc., are possible. See Block Material for Customer Processing for more information.
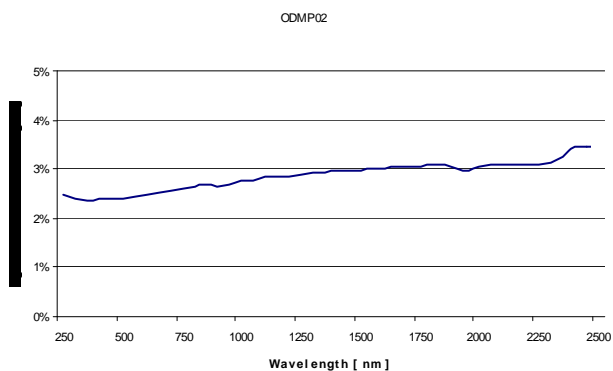

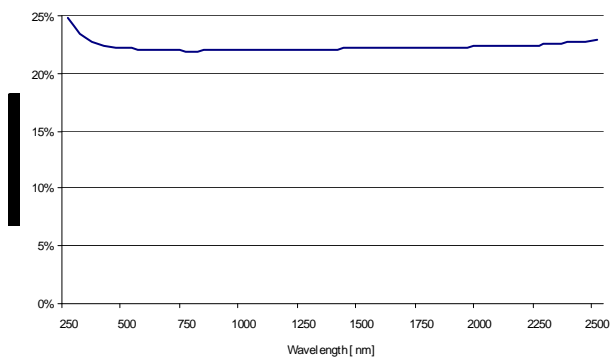*ODMP Pigmented Synthetic Reflecting Material*
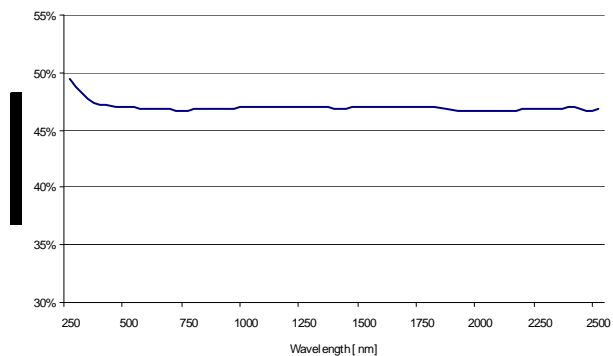
Specifications (Graphs)

Typical Spectral Reflectance of ODMP02, ODMP-20,
ODMP-50 and ODMP-70.
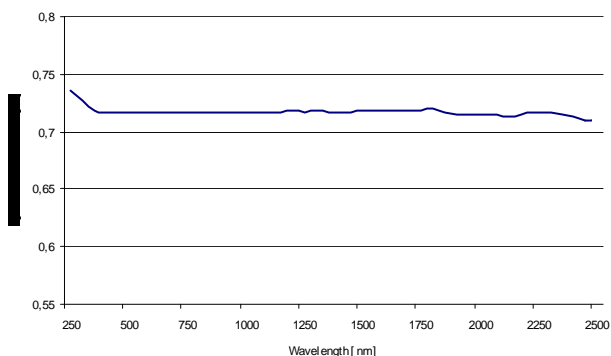ODM98 shown as Reference

Typical Spectral Reflectance of ODMP02

Typical Spectral Reflectance of ODMP20

Typical Spectral Reflectance of ODMP50

Typical Spectral Reflectance of ODMP70

ODMP-B Raw Block Material

Raw ODMP blocks can be used for machining small size integrating sphere inserts, light traps, 3D formed reflectance standards and other diffuse low reflectance parts. For cost effectiveness the size of the raw block should be as close as possible to the maximum dimensions of the final product. Custom size blocks can be ordered in OEM quantity. Custom size blocks are not available for prototypes or in small quantities. For small quantity orders Gigahertz-Optik stocks different size standard blocks for fast delivery. Contact our sales department to discuss your raw block requirements.

Note: Raw block surfaces must be machined to an optical finish.

ODMP Pigmented Synthetic Raw Block Material

ODMP-P Raw Plates Material

Raw ODMP plates can be used for machining flat reflectance standards and small size components like integrating sphere light trap plugs and other optical components requiring reduced reflectance. For cost effectiveness the size of the raw plate should be as close as possible to the maximum dimensions of the final product. Custom size plates can be ordered for larger quantity OEM orders. Custom size plates are not available for prototypes or in small quantities. For small quantity orders Gigahertz-Optik stocks different size standard plates for fast delivery. Contact our sales department to discuss your raw block requirements.

Note: Raw plates surfaces must be machined to an optical finish.

ODMP Pigmented Synthetic Raw Plate Material

ODMP is commonly used as reflectance standards (flat surface) for the calibration at different reflectance values of :

- Spectrophotometers
- Imaging System Pixel Uniformity
- Reflectance Meters
- Surface Color Meters

ODMP-MP are square plates with surfaces machined to a flat optical finish. Gigahertz-Optik GmbH stocks different size machined plates at a thickness of 10.5mm. For OEM applications custom sizes, shapes and thicknesses are available.

ODM98-MD are plates in disc shape with surfaces machined to a flat optical finish. Gigahertz-Optik GmbH stocks different sizes of 10.5mm thick discs. For OEM applications custom sizes, shapes and thicknesses are supplied.

BN-R-D2 Reflectance Standards are ODMP-MD discs supplied in a protective housing with removable protective top. Gigahertz-Optik GmbH stocks reflectance standards with different reflectance values in disc shape. All standards can be supplied with optional spectral reflectance calibration from 250 nm to 2500 nm in 50nm steps. Calibration is done with a double-beam spectrophotometer in 8/d measurement geometry using reflectance standards traceable to national calibration laboratories. For OEM applications custom sizes, shapes and housings are available.

ODMP Machined Material

Gigahertz-Optik GmbH offers full custom design and machining service for it's ODMP material. These services include 3D CAD design work, CNC machine programming using our own design or customer generated design and CNC machining. Small quantities are made using stock raw block or raw plate materials. OEM quantities include custom size raw material for machining time and material cost saving.

ODMP machining processes include:

- Cutting of machined plates
- 5-axis CNC milling of plates and three dimensional parts
- 2-axis CNC milling of large size plates
- CNC lathe work
- CNC drilling
- Tapping

Typical examples of custom design products include:

- Custom size and shape reflectance standards
- 3D machined light traps
- Custom size and shaped integrating sphere inserts

Custom design assembly service:

Gigahertz-Optik GmbH offers custom design assembly service including custom design housing and device assembly. CNC machining of plastic and aluminum as well as anodizing and painting of metal components is part of the service.

Please contact our sales for help in the selection of the best process for your requirements!

Purchasing Information

ODMP-B Raw Block Material

Model	Item No.:	Dimensions
ODMP70-B01	102743	d52x100 mm
ODMP50-B01	102742	d52x100 mm
ODMP20-B01	102741	d52x100 mm

ODMP-P Raw Plate Material

Model	Item No.:	Dimensions
ODMP70-P01	102743-1	305 x 305 x 12 mm
ODMP50-P01	102742-1	305 x 305 x 12 mm
ODMP20-P01	102742-1	305 x 305 x 12 mm

ODMP-M Machined Material

Model	Item No.:	Dimensions
ODMP70-MP01	102743-2	240 mm x 240 mm x 10.5 mm, 10" x 10" x0.41"
ODMP70-MP02	102743-3	127 mm x 127 mm x 10.5 mm, 5" x 5" x 0.41"
ODMP70-MP03	102743-4	50.8 mm x 50.8 mm x 10.5 mm, 2" x 2" x 0.41"
ODMP70-MD01	102743-5	d50.8 diameter x 10.5 mm, 2" dia x 0.41"
ODMP50-MP01	102742-2	240 mm x 240 mm x 10.5 mm, 10" x 10" x0.41"
ODMP50-MP02	102742-3	127 mm x 127 mm x 10.5 mm, 5" x 5" x 0.41"
ODMP50-MP03	102742-4	50.8 mm x 50.8 mm x 10.5 mm, 2" x 2" x 0.41"
ODMP50-MD01	102742-5	d50.8 diameter x 10.5 mm, 2" dia x 0.41"
ODMP20-MP01	102741-2	240 mm x 240 mm x 10.5 mm, 10" x 10" x0.41"
ODMP20-MP02	102741-3	127 mm x 127 mm x 10.5 mm, 5" x 5" x 0.41"
ODMP20-MP03	102741-4	50.8 mm x 50.8 mm x 10.5 mm, 2" x 2" x 0.41"
ODMP20-MD01	102741-5	d50.8 diameter x 10.5 mm, 2" dia x 0.41"
ODMP02-MP01	102869-2	240 mm x 240 mm x 10.5 mm, 10" x 10" x0.41"
ODMP02-MP02	102869-3	127 mm x 127 mm x 10.5 mm, 5" x 5" x 0.41"
ODMP02-MP03	102869-4	50.8 mm x 50.8 mm x 10.5 mm, 2" x 2" x 0.41"
ODMP02-MD01	102869-5	d50.8 diameter x 10.5 mm, 2" dia x 0.41"

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