



TECHNICAL DATA SHEET Hot Mirror Products

PRODUCT DESCRIPTION

Deposition Sciences, Inc. has long had a reputation for producing extremely durable and robust optical coatings. DSI Hot Mirror products are part of this family. DSI Hot Mirror products provide maximum heat control and visible transmission. These Hot Mirrors are designed to operate with high intensity sources and the ability to handle high IR and UV loads.

APPLICATIONS

- Cinema Projection Systems
- Desk Top Projection Systems
- Entertainment Lighting
- Medical and Dental Light Engines
- IR Filters for CCD Cameras

TECHNICAL SPECIFICATIONS

DSI has three different standard Hot Mirror offerings: Xenon Hot Mirror, UV Xenon Hot Mirror, and Super HeatBuster®. Each of these is designed to produce no significant color changes in the output of the light source. All of DSI's hot mirrors are provided on Schott Borofloat® low expansion Borosilicate glass. Parts up to 26" in length and up to 8" wide can be produced from a standard hot mirror sheet in thickness of 1.1 mm, 1.75 mm, 2.2 mm and 3.3 mm.

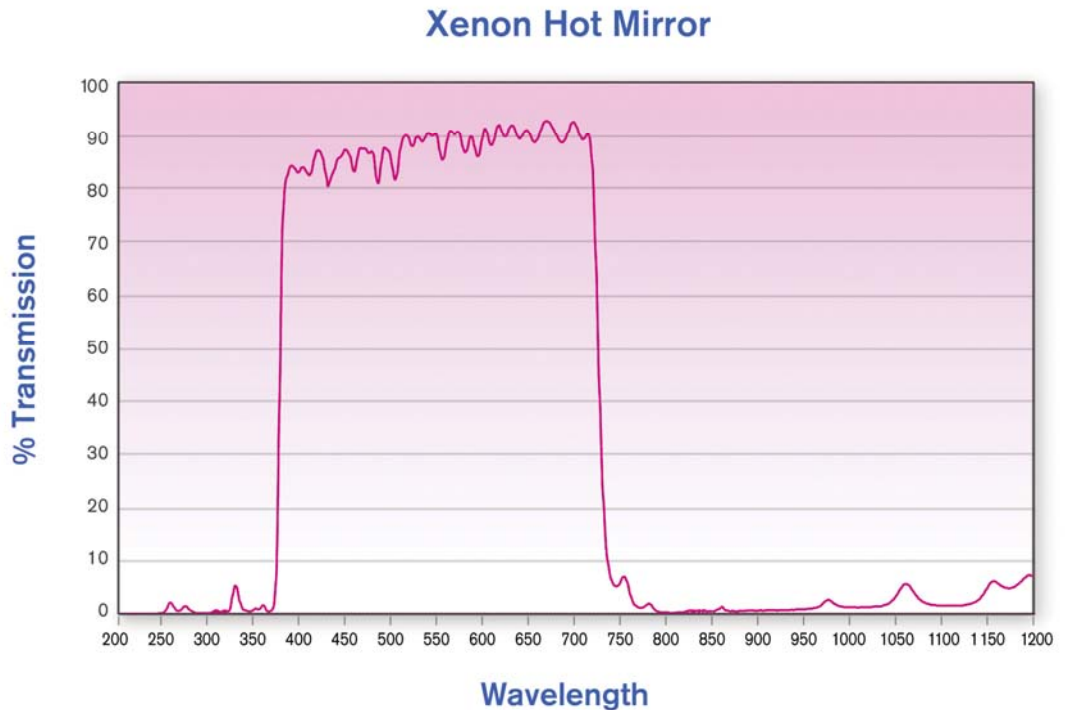
XENON HOT MIRROR

This Hot Mirror is designed to be used with a Xenon arc lamp. The coating is designed to have its peak IR blocking performance in the area where the Xenon lamp has its greatest IR output between 840 nm and 920 nm. It also blocks the UV out of the lamp. The Xenon Hot Mirror is useful in medical systems such as endoscopy and dental epoxy curing applications where sensitive tissues will be exposed to the light source. It[®] can also be used to protect plastic optics from the UV and IR energy produced by the lamp. Because of the superior blocking of the IR this hot mirror can be used as a filter for a CCD camera. It effectively blocks the near IR from entering the camera while transmitting the visible wavelengths to the detector.

The specifications for the Xenon Hot Mirror are listed below:

- T 1% average from 200 nm to 350 nm
- T 5% average from 350 nm to 370 nm
- T 85% average from 400 nm to 700 nm
- T 2% average from 850 nm to 950 nm
- T 5% average from 760 nm to 1300 nm

The figure below shows the typical spectral output of the Xenon Hot Mirror:



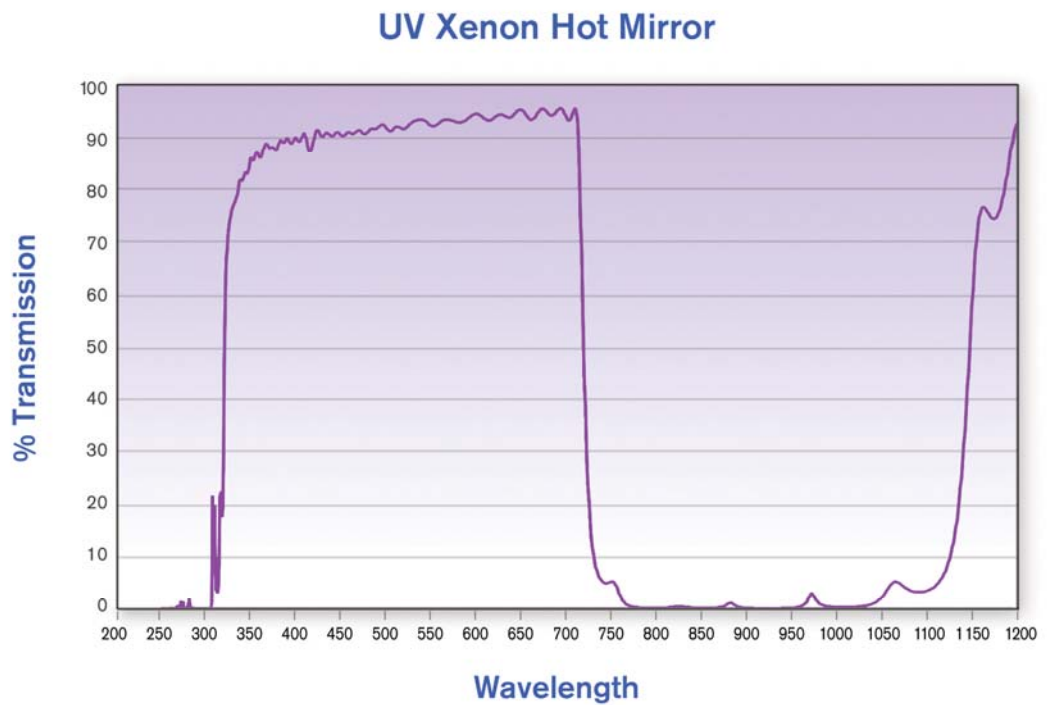
UV XENON HOT MIRROR

This Hot Mirror is designed to be used with a Xenon arc lamp. The coating is designed to have its peak IR blocking performance in the area where the Xenon lamp has its greatest IR output between 840 nm and 920 nm. This Hot Mirror transmits the UV from the lamp down to 340 nm. It is designed to be used in UV curing and bio-fluorescence applications, protecting the sample from the heat of the lamp.

The specifications for the UV Xenon Hot Mirror are listed below:

- $T \leq 1\%$ average from 200 nm to 340 nm
- $T \geq 85\%$ average from 350 nm to 700 nm
- $T \leq 2\%$ average from 850 nm to 950 nm
- $T \leq 5\%$ average from 760 nm to 1300 nm

The figure below shows the typical spectral output of the UV Xenon Hot Mirror:



SUPER HEATBUSTER® HOT MIRROR

This Hot Mirror is designed for extended IR and UV blockage. It is designed for use in systems that have an extended range heat source, such as a tungsten halogen lamp or a furnace viewport. The Super HeatBuster is ideal for protecting items such as plastic fibers, or in high power projection systems where the elements are easily damaged by longer wave IR radiation.

The specifications for the Super HeatBuster Hot Mirror are listed below:

- $T \leq 1\%$ average from 200 nm to 380 nm
- $T \geq 85\%$ average from 420 nm to 680 nm
- $T \leq 5\%$ average from 730 nm to 1500 nm

The figure below shows the typical spectral output of the Super HeatBuster Hot Mirror:

