

**FOR IMMEDIATE RELEASE**

**(Editor: Note photos at end of text)**

Press Contacts:

Robert Schaefer (Press): 631 643-5466

Stuart Singer (North America): 631-761-5000

Dirk Muschert (Worldwide Marketing): +49 671 601 389

**Schneider lens captures high-definition images for NASA  
in-flight space shuttle heat shield inspections**

*Schneider Xenoplan C-Mount lens is a key element in  
new monitoring system designed to reduce flight risks*

*Hauppauge, New York, October 16, 2006* – Schneider Optics, Inc. has announced that during NASA's successful STS-121 mission, the Discovery Space Shuttle utilized a Schneider Kreuznach Xenoplan f2.8/50mm Compact C-Mount lens on the Shuttle's new orbital inspection boom, which is equipped with high-definition cameras that enable astronauts to scan the orbiter's exterior for damage while in orbit.

A key safety system on NASA's Shuttle Return to Flight Program, the imaging system is mounted at the end of the Shuttle's 50-foot robotic arm and controlled by the crew, enabling them to view real-time streamed high-resolution images on a laptop inside the Shuttle.

After a successful launch into orbit, there were a number of areas on Discovery's thermal protection system that were deemed "areas of interest" warranting focused inspection via the high-performance camera system. Utilizing the ultra-high-resolution images made possible through Schneider's Xenoplan lens, the flight crew was able thoroughly inspect the thermal tiles and the gap filler between tiles, and determine that the thermal protection system was sound for a safe re-entry into the earth's atmosphere.

According to NASA's requirements, the high-resolution camera system needed to consist of commercial-off-the-shelf (COTS) products that were rugged enough to perform flawlessly under the rigors of a Space Shuttle mission. *"The system required a high-quality, low-distortion corrected lens, optimized from 400nm – 1000nm, able to cover the 22mm image circle of the camera's high resolution CCD,"* explained Schneider Optics Chief Executive Officer Dwight Lindsey. *"The lens needed to be compact in size, and able to maintain its optical quality after withstanding the G-forces and vibrations of launch, atmospheric re-entries and landings, as well as in the extreme environment of space. Our Compact C-Mounts are known for their ability to permanently lock in iris and focus settings, and perform in even the harshest industrial applications. We're immensely proud that our Xenoplan Compact C-Mount lens performed flawlessly as an integral part of NASA's Shuttle Return to Flight Program."*

Discovering damage while in orbit could be a life-saving event -- affording the Shuttle crew the opportunity to repair the damage before re-entry, or, if repairs are impossible,

dock with the International Space Station to await rescue from the launch of an additional Shuttle or a Russian Soyuz capsule.

Prior to being used on the new orbital inspection boom, Schneider Xenoplan lenses were also used by NASA as part of a three-dimensional structured light (DSL 3-D) system designed to quantify experimental damage to a panel of Space Shuttle tiles. In laboratory testing, researchers fired pieces of insulating foam (identical to the foam that broke off during the launch of the Shuttle Columbia) at the test panel through a compressed-air cannon. Using the DSL 3-D optical system, which provided an ultra-high-resolution map of the test panel's surface, researchers were able to determine the existence of even microscopic damage.

For further technical and contact information, please visit:

USA: <http://www.schneideroptics.com/oem/>

Elsewhere: <http://www.schneiderkreuznach.com/industrialoptics>

### **About Schneider:**

The Schneider Group, founded in 1913 in Bad Kreuznach, Germany, is a worldwide market leader in high-quality lenses for industrial applications, photographic lenses, filters, cinema projection lenses and optical accessories. In total, Schneider has manufactured more than 15 million lenses and has created thousands of optical designs. The Schneider Group has 550 employees worldwide.

### **Business Unit INDUSTRIAL OPTICS**

Jos. Schneider Optische Werke GmbH designs, develops, manufactures and markets optical and opto-mechanical components and subassemblies for machine vision and other image processing applications. By providing high-quality optical solutions using both standard and customized versions of the company's vast array of lens designs, Schneider helps system integrators and equipment manufacturers to enhance their vision systems.

#### Headquarters:

Jos. Schneider Optische Werke GmbH

Ringstraße 132

55543 Bad Kreuznach

Germany

Phone: +49 671 601-389

Fax: +49 671 601-108

[www.schneiderkreuznach.com](http://www.schneiderkreuznach.com)

[industrie@schneiderkreuznach.com](mailto:industrie@schneiderkreuznach.com)

#### North America:

Schneider Optics Inc.

285 Oser Avenue,

Hauppauge, NY 11788 USA

Phone + 1 631 761-5000

Phone: +1 818 255-9350

Fax: +1 631 761-5090

[www.schneideroptics.com](http://www.schneideroptics.com)

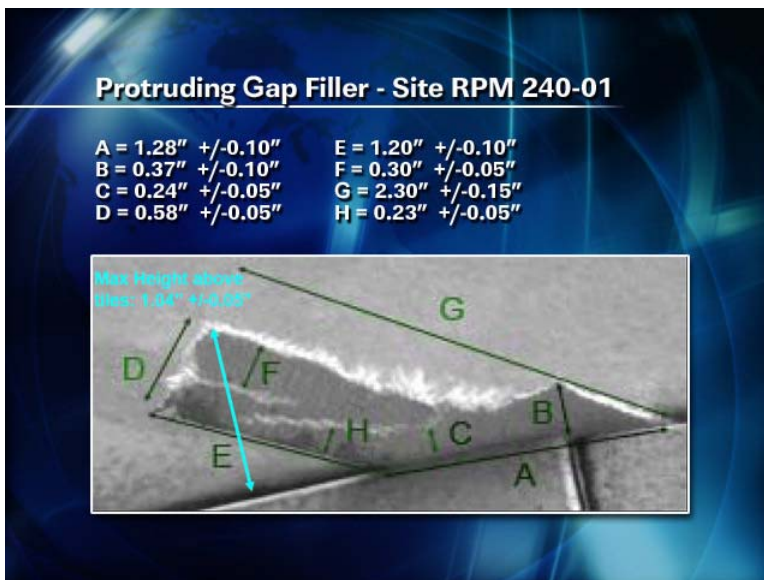
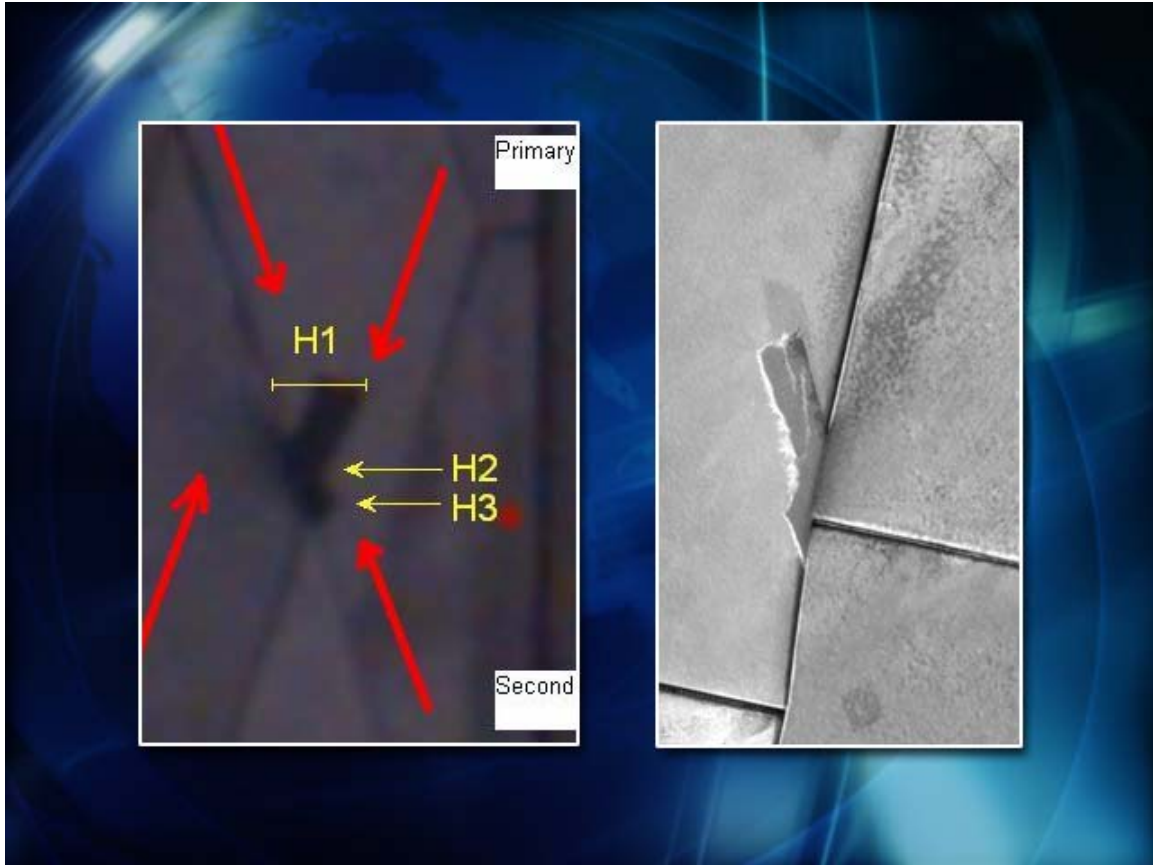
[oem@schneideroptics.com](mailto:oem@schneideroptics.com)

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See following photos and captions.

**CAPTION:**

Lower-resolution images (left) captured by the Shuttle's light-detection-and-ranging (LIDAR) remote-sensing instruments indicate areas warranting further inspection (right and below) with the ultra-high-resolution cameras featuring Schneider's Xenoplan f2.8/50mm Compact C-Mount lens. Credit: NASA



**CAPTION:**

Discovery's robotic boom arm, which holds the camera system featuring the Schneider Xenoplan lens, stretches above NASA astronauts Piers Sellers and Michael Fossum during their spacewalk on July 8, 2006. Credit: NASA TV.

