

## **Precautions for Handling and Use of Specific Asahi KASEI Multi-Core Plastic Optical Fibers**

[The following precautions apply to these eight product designations: MBI-500s, MBI-1500 and LUMINOUS designations MBI-500, MBI-750, MBI-1000, MBI-1500, MBI-2000 and MBI-750-10.]

### **Restricted applications**

DO NOT USE ANY OF THESE MULTI-CORE PLASTIC OPTICAL FIBERS FOR ANY APPLICATION WHICH IS INTENDED TO COME INTO DIRECT CONTACT WITH THE HUMAN BODY OR DIRECT CONTACT WITH FOOD. Consult Asahi KASEI EMD before considering these fibers for any non-invasive medical device applications. Invasive applications cannot be considered.

### **Installation and operating environment**

These plastic optical fibers are not structurally or materially designed to bear large external loads. Do not place or drop heavy objects on the fibers, or hang objects from them. Improper installation or service environment may seriously degrade their light transmission capability. The design of any system or instrument in which these optical fibers are to play an essential role must provide effective control of their installation and operating environment (temperature, humidity, freedom from exposure to solvents, chemicals, ultraviolet light, etc.) and appropriate back-up in case of light transmission loss.

Laboratory tests and experience have shown all of the following to require particular care, in both installation and service.

- \* Do not squeeze, pinch, or compress these optical fibers with tools, fixtures, or securing devices.
- \* Do not bring into direct contact with any chemicals that might degrade the fibers' plastic resins.
- \* Do not bring into direct contact with any tubes, cables, or other rubber or plastic objects containing plasticizer (DOP, etc.), stabilizer, or other additive that might migrate into the fibers' cord or cable and cause discoloration or reduced photoconductivity.
- \* Do not apply or permit contact with any adhesive containing a solvent, monomer, or other component that might adversely affect the physical or optical properties of these fibers.
- \* Do not use any alcohol or organic solvent in cleaning or wiping these optical fibers, as it may cause cracking or hazing.
- \* Do not expose the fibers to ultraviolet or radioactive rays, which may cause deterioration and loss of photoconductivity.

### **Heat exposure**

These plastic optical fibers soften at approximately 100°C, decompose and emit flammable gas at approximately 200°C, and above 200°C may ignite and burn. Any lamp or other light source assembly must include a cooling device to keep the fibers below 80°C, and particularly in conjunction with the use of a condenser lens, the end

surface of the fibers must be kept free of dirt and other contaminants, which may cause elevated fiber surface temperature, decomposition, and fire.

### **Storage**

Store any and all of these plastic optical fibers indoors, in a place free from direct sunlight, water and excessive humidity, to protect their properties and performance.

### **Disposal**

The bare fiber and cord in all of these products contain fluorine and vinyl chloride resins, and will emit hydrogen fluoride, hydrogen chloride or other toxic gases during incineration. Dispose of the fibers either by landfill burial or by incineration in a facility capable of removing and disposing of such gases, in strict accordance with national and local laws and regulations.

\*These precautions are based on information provided by ASAHI KASEI EMD and, to the best of the company's knowledge, were accurate as of the date of publication. The information may be modified if new knowledge or information is acquired.