... offers protection for saving lives and safeguarding investments.

- Instrumentation cables for applications with special requirements in case of fire, i.e. the protection of human life and high-value material assets as well as the maintenance of functionality.

- ICON Safe quality products guarantee these requirements with a high degree of reliability thanks to well-tested designs and high-tech LSZH compounds especially developed by the Business Unit Industrial Projects.

- Properties, such as smoke density, the maintenance of functionality, reduced flame propagation, zero halogen content etc. are certified by independent test laboratories.

- ICON Safe instrumentation cables are designed according to the latest standard for instrumentation cables (EN 50288-7).
Halogens found in cables and other components such as fluorine, chlorine, bromine and iodine are highly reactive elements. When they burn, they form highly corrosive toxic gases which can cause considerable injury to persons and damage to equipment and systems as well as structural damage (as a result of the formation of halogen acid when they come into contact with water).

This is why, in the form of ICON Safe, we provide specialized instrumentation cables for applications with stringent safety requirements in case of fire aimed at protecting human life, high-value material assets and cable performance.

If, in case of fire, your applications require preventive protection for persons, minimum smoke development in order not to obstruct escape routes and rescue operations, low propagation of flames to other parts of the building via cables and the prevention of consequential structural damage, the extensive ICON Safe portfolio is always the right choice to make.

ICON Safe quality products guarantee this through high reliability thanks to tried and tested designs as well as high-tech LSZH (Low Smoke Zero Halogen) compounds specially developed by the Business Unit Industrial Projects.

ICON Safe stands for properties such as low flue gas density, protection of cable performance, reduced flame propagation and freedom from halogens.

These properties are constantly being certified by independent test laboratories.

It goes without saying that ICON Safe instrumentation cables are designed according to the latest standard EN 50288-7 and meet the requirements of IEC 60332-3, IEC 60331, IEC 61034 and other relevant standards.
See two examples of our ICON Safe cable designs which assure circuit integrity in case of fire:

![Cable Design 1](image1)

![Cable Design 2](image2)

**Characteristics**

<table>
<thead>
<tr>
<th>Application</th>
<th>Conductor</th>
<th>Insulation</th>
<th>Wrapping</th>
</tr>
</thead>
<tbody>
<tr>
<td>For transmission of analogue and digital signals in instrument and control systems, where maintenance of circuit integrity in case of fire is required; allowed for use in zone 1 and zone 2 group II classified areas (IEC 60079-14); not allowed for direct connection to low impedance source, e.g. the public mains electricity supply.</td>
<td>plain annealed copper wire, 7 stranded, size: 0.5 mm²</td>
<td>cross-linked polyethylene XLPE over the MICA-tape wrapped conductor</td>
<td>at least 1 layer of plastic tape</td>
</tr>
<tr>
<td>Recommended for indoor and outdoor installation, on racks, trays, in conduits, in dry and wet locations.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Recommended for use as fire protection measure for people and important material assets.</td>
<td></td>
<td></td>
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</tr>
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<td>plain annealed copper wire, 7 stranded, size: 1.5 mm²</td>
<td>silicone rubber</td>
<td></td>
</tr>
<tr>
<td>Recommended for indoor and outdoor installation, on racks, trays, in conduits, in dry and wet locations; for direct burial.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
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<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

- **Conductor**: plain annealed copper wire, 7 stranded, size: 0.5 mm², 1.5 mm²
- **Insulation**: cross-linked polyethylene XLPE over the MICA-tape wrapped conductor, silicone rubber
- **Wrapping**: at least 1 layer of plastic tape
- **Collective screen**: aluminium / PETP tape over 7-stranded tinned copper drain wire
- **Inner sheath**: low smoke, zero halogen flame retardant compound LSZH, black
- **Armour**: galvanized steel wire braid, opt. coverage 80 % (min)
- **Outer sheath**: low smoke, zero halogen flame retardant compound LSZH, black
- **Cable type**: ICON Safe 20B20 M3, ICON Safe 20510 M3

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