

# ZINC-INDIUM-MAGNESIUM active solder

<p><b>Title</b></p>	<p>ZINC-INDIUM-MAGNESIUM active solder</p>
<p><b>Basic technology outline</b></p>	<p>Active leadless solder for higher application temperatures</p> <p>Active soft leadless solder on Zn-In base with Mg addition</p> <p>Allows direct soldering non-metallic materials without previous coating</p> <p>Solder is designed for higher application temperatures (~300 °C)</p> <p>The wetting speed, the area of spread, the contact angle and the shear strenght of bonds are on standard industrial level</p>
<p><b>Technology deployment</b></p>	<p>Direct soldering of metallic and non-metallic materials</p> <p>Usable in electronics, energy industry, research and development</p> <p>Allows direct soldering metallic materials with non-metallic or special materials (like tungsten)</p> <p>Primary designed for ultrasound, laser and combined soldering</p> <p>Usable in sequent soldering process</p> <p>Suitable for soldering without flux</p>
<p><b>Advantages over currently used solutions</b></p>	<p>Unique combination of features and use possibilities</p> <p>Does not contain Pb (harmful) and Au (costly)</p> <p>Suitable for higher application temperatures - unique atribute for active leadless solders</p> <p>Better mechanical characters in comparison with solders containing Bi</p>

<b>Current status of technology</b>	Patented and tested technology (Slovak) patent pending (5011-2016) Tested in relevant conditions Conducted and analyzed soldered bonds between Si, Al <sub>2</sub> O <sub>3</sub> , Cu and others
<b>More information</b>	<a href="mailto:alena.kojdiakova@cvtisr.sk">alena.kojdiakova@cvtisr.sk</a>
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