OnSpec® CIG Alloy Sputtering Targets
Copper-Indium-Gallium

Benefits
- **Simplicity of Use** - OnSpec® CIG Alloy Targets offer tight control of composition on the cell.
- **Increased Efficiency** - OnSpec CIG Alloy Targets have very low levels of impurities which will enable the manufacture of high efficiency solar cells.
- **Reduced Cost-of-Ownership** - The cylindrical, rotatable shape offers greater than 70% material utilization with less system downtime and high system throughput.
- **Customizable** - OnSpec Targets are available in custom shapes, sizes, and alloy composition to suit your unique needs.

Overview
Indium Corporation’s OnSpec sputtering targets made from copper (Cu), indium (In) and gallium (Ga) alloys are used to produce high-efficiency CIGS (Cu/In/Ga/di-selenide) solar cells. Consistent, tightly controlled chemistry throughout the target enable better control on the resulting solar cell chemistry and morphology. In addition, cylindrical, rotatable sputtering targets increase material utilization and system throughput while reducing the total cost of ownership.

Targets can either be used in reactive or non-reactive modes. Using alloy targets of various Cu/III and Ga/III ratios enable grading the chemical composition of the CIGS layer. This, in turn, replicates the process used for manufacturing high-efficiency solar cells.

Standard Shapes and Sizes
- Rectangular Planar: length - 482.6 mm, breadth - 127 mm, thickness - 6.35 mm.
- Round Planar: diameter 76.2 mm – 203.2 mm, thickness 6.35 mm.
- Rotatable Cylindrical: tube length 304.8 mm – 1219.2 mm, tube diameter 76.2 mm – 152.4 mm, thickness 3.175 mm – 12.7 mm.
- Custom shapes and sizes available on request.

Chemistry & Purity
- Capability to analyze and control impurities to the part per billion levels.
- Tightly controlled Fe, Ni, Zn, Cd, and Hg enable higher solar conversion efficiency.
- Alloys available with Cu/III ratios 0.1 - 0.99 and Ga/III ratios 0.2 – 0.3.

Storage and Packaging
The targets are securely packed to avoid contamination and damage during shipment. Custom packaging is available on request.

Other Targets for Solar
- Absorber layer targets: Cu/Ga, Cu/In, and In.
- Transparent conductive oxide layer targets: In/Sn, In/Sn/O, Sn, and Sn/O.
- Other custom alloys available.

Target Management System
Indium Corporation’s Total Target Management System provides lower cost of ownership. Indium Corporation takes over the entire operation of your targets including: process monitoring, target changes, reclaim, refurbishment, restocking, purchasing, and inventory level management.

Indium Corporation can show you how to increase your bottom line with Total Target Management while eliminating the larger process concerns of your production operations.
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Technical and Customer Support

Indium Corporation sets the industry standard in providing online and onsite technical support to our customers worldwide. Our team of research scientists, application engineers, and technical support engineers work closely with customers to develop custom solutions to their technical problems and increase their productivity.

• Six Sigma Certified
  Indium Corporation’s Six Sigma Green Belt and Black Belt certified staff have been trained in advance process management methods to help you to:
  • Increase yields
  • Improve customer satisfaction
  • Increase revenues
  • Reduce defects
  • Deliver high value and return on investment
  • Increase profits

Corporate Strength

The Indium Corporation, founded in 1934, is a premiere manufacturer of advanced materials for the solar, thin film, semiconductor, and electronics industries. In addition, we are an award winning supplier of electronics assembly and semiconductor packaging materials including solder pastes, solder preforms, fluxes, Pb-Free solder alloys, underfill materials, die-attach materials, and more. Indium Corporation, an ISO 9001 registered company, is the world’s premiere supplier of commercial grade and high-purity indium. Factories are located in the USA, the United Kingdom, Singapore, and China.