



AM&M

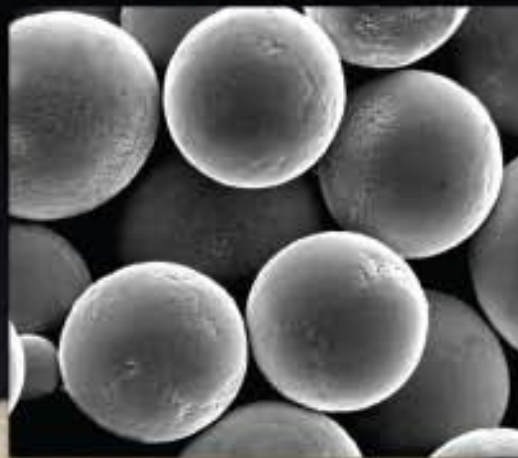
ADVANCED MACHINE AND MATERIALS INC.

FIRST ONE IN THE WORLD!

AM&M is capable of constantly supplying SAC305, In52/Sn48, Sn95/Ag5, Sn42/Bi58, Indium and all listing powders at size range of Type 6, 7, 8 in tons per month.

EXPERTS IN METAL POWDERS

- CIGS Solar Powders
- Solder Powders
- Nano Powders



CIGS POWDERS

CI (COPPER / INDIUM) POWDER
CG (COPPER / GALLIUM) POWDER
CIG (COPPER / INDIUM / GALLIUM) POWDER
CIGS (COPPER INDIUM GALLIUM SELENIDE) NANO POWDERS

The booming solar industry is in the midst of an argument over which material will become dominant in the future for harvesting sunlight and turning it into electricity. Solar cells companies have developed new technologies such as thin-film solar cell to reach the goal of low-cost, high efficiency power conversion from renewable energy sources. Panels that harvest energy with CIGS (copper indium gallium selenide) cost far less to make and install. The material can be sprayed onto foil, plastic or glass or incorporated into cement and other building materials. Conceivably, the entire exterior of a house or building could become a solar generator. CIGS also doesn't degrade in sunlight like other thin-film technologies. World solar photovoltaic (PV) market installations reached a record high of 1,744 megawatts (MW) in 2006, representing growth of 19% over the previous year. Solar Cells made from CIGS, are relatively new, but there's already a nice rivalry brewing in the industry. The industry will reach \$51 billion market opportunities in 2015.

AM&M is proud to be one of the first companies being requested and signed contract to supply the raw material of CIGS thin film – such as Copper Indium Gallium (CIG), Copper Indium (CI), Copper Gallium (CG) and CIGS Nano powders.

"The smartest investors are going short on silicon and long on thin film, especially CIGS."

--Martin Roscheisen, CEO of Nanosolar



NANO POWDERS

INDIUM TIN OXIDE (ITO)
INDIUM OXIDE (IN₂O₃)
TIN OXIDE (SnO₂)



ITO [Indium Tin Oxides] nano-powder is one of the most noticeable ceramic powders in material science and LCD industry. ITO (Indium-Tin Oxide) nano powder is used for sputtering targets, the major material that is used to produce thin film of **LCD TV** and monitor, Each year, 75% of the world widely indium product is used to produce LCDs. With the new developed atomizing technology, AM&M is able to produce high purity (99.99%) ITO nano powder in; the **Particle size: 10-30 nm**, and weight ratio: In₂O₃:SnO₂=90:10.

SOLDER POWDERS

Solder paste is a mix of small solder particles and flux. It is used exclusively in the automated soldering process reflow soldering. Solder powders are the key component of all solder pastes. It's very important that the spheres of metal are very regular in size and have a low level of oxide. AM&M is capable to supply wide range of high purity, low oxidation content, spherical solder powders. Particle size range available from Type 3 to Type7; we even created Type 8 (-2500mesh) for special customers. Please see following table for all the available particle sizes range.

Important: We can make any size ranges you want, so please do not hesitate to contact us directly if you can not find the size range you needed from the following table.

MESH SIZE AND MICRON SIZE - CONVERSION CHART

								
MESH SIZE	200mesh	325mesh	400mesh	500mesh	625mesh	800mesh	1250mesh	2500mesh
MICRON SIZE	75µm	45µm	38µm	25µm	20µm	15µm	10µm	5µm

PARTICLE SIZE CATALOG

SIZE CODE	95% BETWEEN	< 1% LARGER THAN	<5% SMALLER THAN	OXYGEN CONTENT
2	75-45µm	75µm	45µm	<100ppm
3	45-25µm	45µm	25µm	<100ppm
4	38-20µm	38µm	20µm	<120ppm
5	25-15µm	25µm	15µm	<200ppm
6	20-10µm	20µm	10µm	<200ppm
7	10-1µm	10µm	1µm	<220ppm

• AM&M Particle size distribution exceeds the IPC J-STD-006 specification. With innovative technology, AM&M is specialized to produce ultra-fine powders (such as 10-1µm, type 7) in large quantity with low cost. AM&M also offer the following sizes:

SIZE CODE	MICRON SIZE (µM)	OR MESH SIZE	100% LESS THAN	OXYGEN CONTENT
2A	-75	-200	75µm	<120ppm
3A	-45	-325	45µm	<120ppm
4A	-38	-400	38µm	<120ppm
5A	-25	-500	25µm	<200ppm
6A	-20	-625	20µm	<200ppm
7A	-10	-1250	10µm	<220ppm
8A	-5	-2500	5µm	<250ppm

- Type 2A means particle size smaller 75micon, or -200mesh.
- Type 8A means particle size smaller 5micon, or -2500mesh. Etc.

