



TECHNICAL DATA SHEET

CATEGORY:

LEAD-FREE ALLOY

NAME:

SAC ALLOYS (SAC305, SAC387, and SAC405)

FEATURES

- EXCELLENT FATIGUE RESISTANCE
- EXCELLENT SOLDER JOINT RELIABILITY
- LOW MELTING POINT FOR A PB-FREE ALLOY (217°C -218°C)
- COMPATIBLE WITH ALL FLUX TYPES

DESCRIPTION

SAC Alloys are the leading candidates to replace tin-lead solders for electronic assembly applications. SAC305 contains 96.5 % tin, 3% silver, and 0.5% copper. This alloy falls under the JEIDA recommendation for lead-free soldering. SAC387 contains 95.5 % tin, 3.8% silver, and 0.7% copper. SAC405 contains 95.5 % tin, 4% silver, and 0.5% copper. These alloys have proven to perform very well in SMT, wave soldering, and hand soldering applications. SAC Alloys may be used with many existing equipment, processes, coatings, and flux chemistries. SAC Alloys are available in bar, cored wire, solid wire, foil, preforms, powder, and no-clean, water soluble and RMA solder pastes. AIM's SAC Alloy no-clean solder pastes pass all Bellcore and IPC specifications.

TYPICAL IMPURITY LEVELS in Percent

| | | | | |
|-------------|----------|-------------|-------------|------------|
| Al: < 0.003 | Au: 0.05 | Cd: < 0.001 | Fe: 0.01 | In: 0.10 |
| As: < 0.01 | Bi: 0.01 | Zn: < 0.001 | Ni: < 0.003 | Pb: < 0.05 |

HANDLING

Refer to the specific Material Safety Data Sheet and the handling section of the individual Technical Data Sheets for the chemistry type of SAC Alloy solder paste being used.

FLUX COMPATIBILITY

SAC Alloys is compatible with all major electronic grade fluxes on the market today, and is available in paste and wire form in no-clean, water soluble and rosin chemistries.

CLEANING

Refer to the liquid flux manufacturer's data sheet for specific cleaning information, or refer to the cleaning section of the individual AIM solder paste technical data sheets for the recommended cleaning information.

TEMPERATURE REQUIREMENTS

| APPLICATION | RECOMMENDED TEMPERATURE |
|------------------|--|
| REFLOW SOLDERING | PEAK TEMPERATURE 235° - 245°C (455° - 473°F) |
| WAVE SOLDERING | POT TEMPERATURE OF 265-270°C (520-530°F) |
| HAND SOLDERING | TIP TEMPERATURE OF 370° - 425°C (700° - 800°F) |

SAFETY

- Use with adequate ventilation and proper personal protective equipment.
- Refer to the accompanying **Material Safety Data Sheet** for any specific emergency information.
- Do not dispose of any hazardous materials in non-approved containers.

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Americas +1-401-463-5605 • Europe +44-1737-222-258 • Asia-Pacific +852-2649-7183 • info@aimsolder.com • www.aimsolder.com