

Preforms



Preforms are tin-based alloy parts that are made to measure for specific applications. They can take the form of squares, rectangles, washers, collars, rings or sleeves. They may also feature an internal or external flux whose activation depends on the application. They enable the creation of soldered joints where the quantity of the alloy is perfectly measured. They are used in areas such as semi-conductors, aeronautics, the automotive industry and electronic and mechanic assemblies. They complement the METACONCEPT Group's tin-based cream or tin-silver cream and solid or cored wire. Waste originating from the use of these products can be recycled. [Contact our recycling department](#) to find out more. Preforms are used as part of manual or fully automated processes.

Have you defined the type of application? [Contact us](#). Our technical staff will be happy to assist you in choosing the most suitable preform.

Characteristics

The table below shows the most commonly used alloys in soft soldering with different types of flux.

Alloys

EN 29453 classification	Density g/cm ³	Solidus / Liquidus	Comments	Packaging
Sn5 - Ag2 - Pb93	11.13	296°C - 301°C	N/A	Bulk
Sn40 - Pb60	9.72	183°C - 235°C	N/A	Bulk
Sn50 - Pb50	9.32	183°C - 215°C	N/A	Bulk
Sn60 - Pb40	8.91	183°C - 190°C	N/A	Bulk
Sn62 - Pb36 - Ag2	8.81	178°C	N/A	Bulk
Sn63 - Pb37	8.79	183°C	N/A	Bulk
Sn48 - In52	7.29	118°C	Lead-free alloy*	Bulk
Sn96 - Ag4*	7.39	221°C	Lead-free alloy*	Bulk
SAC 305	7.38	217°C- 219°C	Lead-free alloy*	Bulk
SAC 307	7.39	217°C- 228°C	Lead-free alloy*	Bulk
Sn97 - Cu3	7.33	230°C - 250°C	Lead-free alloy*	Bulk
Sn99 - Cu1	7.3	230°C - 240°C	Lead-free alloy*	Bulk
Sn100	7.28	232°C	Lead-free alloy*	Bulk

(*) Lead-free alloys - European standard no. 2000 / 53 / CE

The METACONCEPT Group can look into creating any type of alloy upon request. Alloys: tin-indium, tin-bismuth, low melting temperature alloy. Please do not hesitate to [contact us](#).

Flux

Type	Nature	JSTD-004 classification	Acidity level (mg KOH/g)	Halogen rate	Residue removal
MRS2	Resin	ROM1	175	1.3	Clean with a solvent
MRS7	Resin	ROM1	220	1	Clean with a solvent
MSP7	Organic	ROM1	130	1.1	Clean with a solvent
MSP15	Resin	ROLO	386	0	Clean with a solvent

Comments:

Always use an appropriate flux. [Contact our technical department](#) to ascertain which product is most suited to your application.

When the process allows, the **advantages** of using preforms are as follows:

Advantages	Results
Exact quantity of alloy applied	Improves the quality and the finish; saves alloy
Machineable	Reduces costs and non-compliance
Flush joints	Simplifies the assembly process
High % of correct joints	Reduces quality tests
Available in a pre-fluxed version	Eliminates the need for an external flux
Measurement of the % of the flux	Reduces residues after brazing

Applications

Preforms can be used in all **brazing applications** where the quantity of alloy must be very closely controlled. Preforms may also be used to create tin-based fusible parts with a low melting temperature.

Fields of application

- Automotive industry
- Heat exchangers
- Aeronautics
- Spatial
- Connectivity
- Semi-conductors
- Fire safety
- Various electronic and mechanical assemblies

Implementation

The product safety information sheet below is available upon request from the METACONCEPT Group.

The effective use of preforms demands a rigorous and faithful implementation. [Contact](#) the METACONCEPT Group's technical department who, after selection of the alloy and its form, will provide the appropriate implementation sheet.

Precautions for use

To prevent burns caused by the molten metal, it is advisable to wear a protective apron, shoes, gloves, helmet and glasses.

Do not smoke at the workstation.

The workstation must be well ventilated.

Wash your hands when leaving the workstation.

Comments:

Always use a flux suited to the intended use. [Contact our technical department](#) to ascertain which product is most suited to your application.

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