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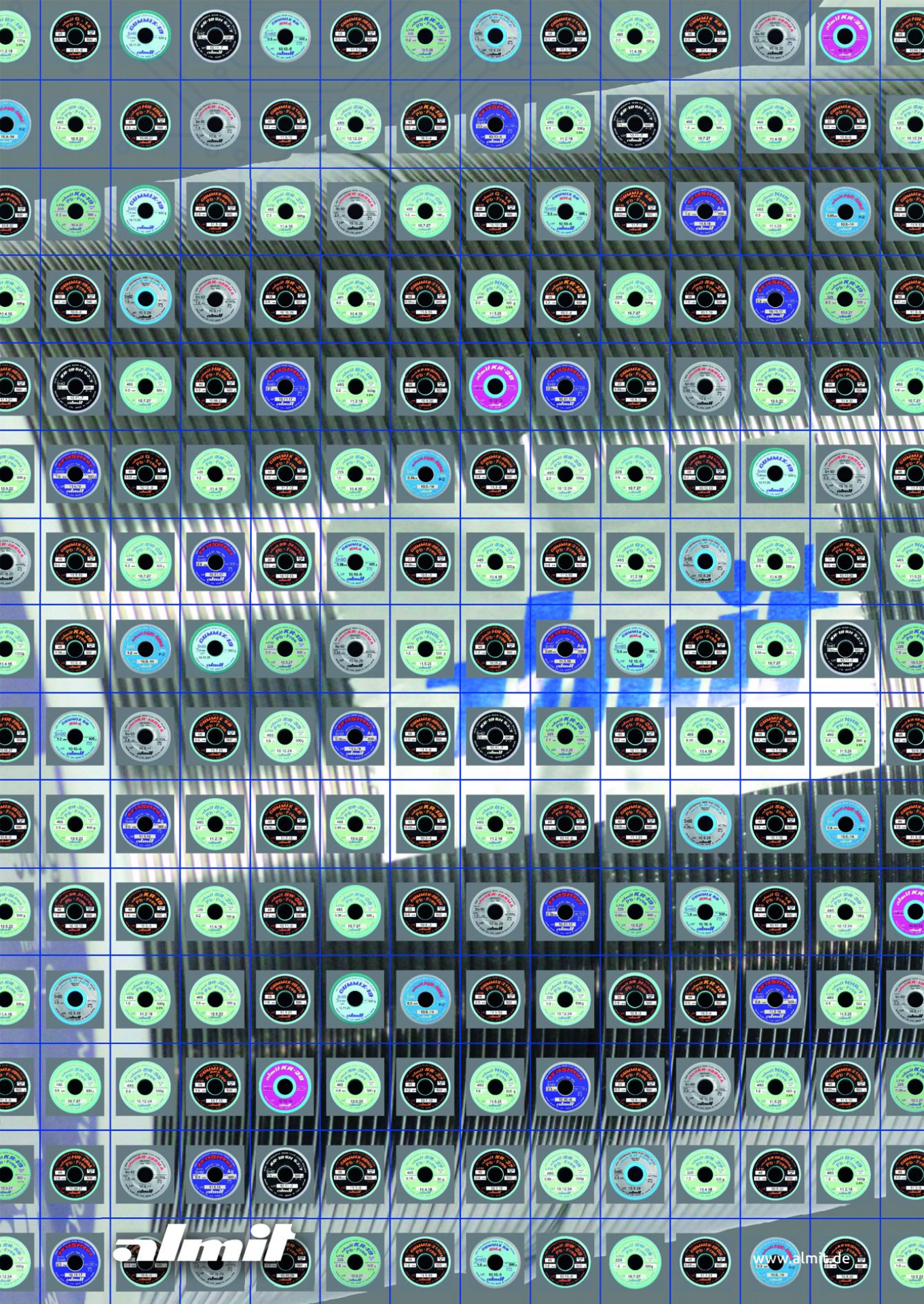
ALMIT Compendium 2.0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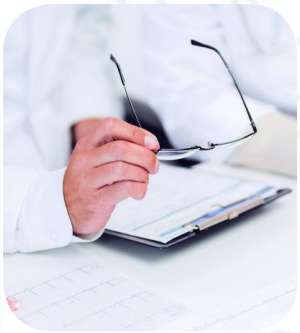


Expert Reports

Architecture of a soldering tip, Selective soldering, etc.

Solder wire lead free

SRS-RMA-NC SJM-03-S, NHR-TH LFM-48-S, SR-LA LFM-48M, etc.

Solder paste lead free

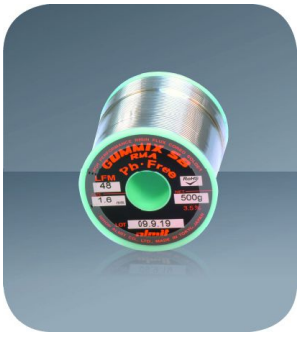
SJM-03 NH EB, SJM-35 SKB, LFM-48 GT, LFM-70 INP, etc.

Solder wire leaded

KR-19 60A, KR-19 RMA Sn63, KR-19 SH RMA Sn62, etc.

Solder paste leaded

Sn62 SRC HM1 RMA, SJ-3Bi Hm1 RMA, SRC SJ-7 SSHA-S, etc.



Gummix Series

GUMMIX 21Zeta SJM-03-S, GUMMIX SB RMA LFM-48-S, etc.

Solder bars and solid wire

LFM-22H, LFM-34H, LFM-48H, LFM-62H, LFM-86H, etc.

Flux

BM-1 RMA, BM-5000 RMA, RC-15SH RMA, RC-281PF, etc.

Accessories

Hand dispenser, Tip cleaner, Flux removers, Dusters, etc.

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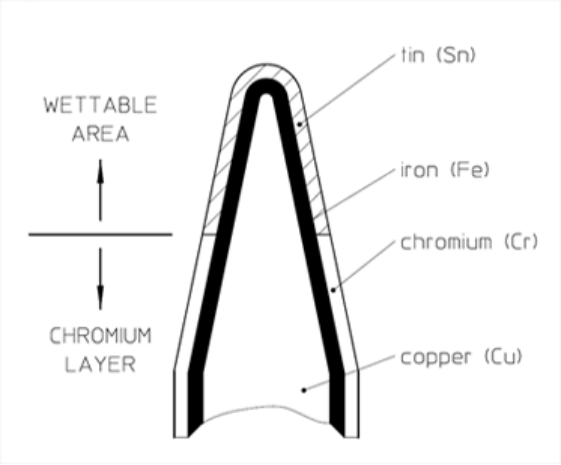
EXPERT REPORTS

Architecture of a Soldering tip

Author:
Thomas Fischer
Research & Development Manager Weller GmbH

Architecture of a Soldering tip

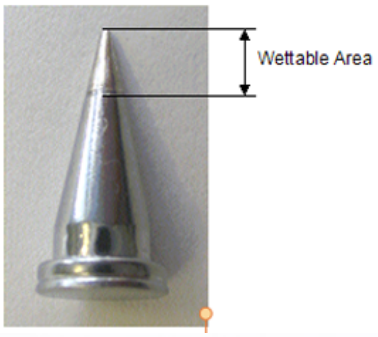
- Copper CoreTellurium Copper, oxidation-reduced material, easy to machine. Responsible for the high heat conductivity of the soldering tip.
- Iron LayerIs galvanically applied. Responsible for high wear resistance. Dissolution rates 40 - 50 soldering cycles per micron iron.
- Chromium LayerIs galvanically applied. Unwetted part of the soldering tip. Responsible for confining the wettable area.

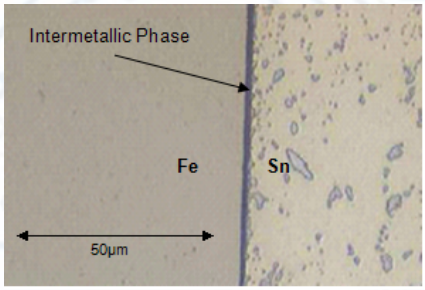


- Tinned Working Area(Chromium-free area; see next page). Responsible for the wettability of the soldering tip.
- Lead-free TinningResponsible for the activation of the soldering tip and proper wettability of the delivery condition. The lead-free tinning can be applied galvanically as well as by dip tinning.

Wettable Area of the Soldering Tip

- The wettable area is the working area and responsible for the heat transfer.
- Requirement for tinning is the ability of an intermetallic phase between the iron layer (Fe) and the solder alloy (Sn).
- Tinning the wettable area requires an activation of the iron and creates an intermetallic phase. When the intermetallic phase is build up the tip is tinned and remains wettable.

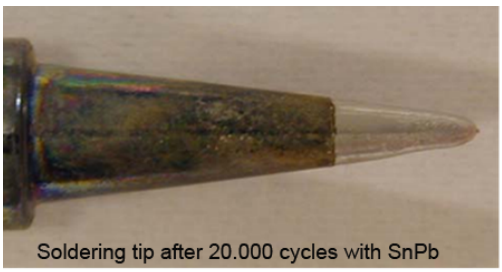


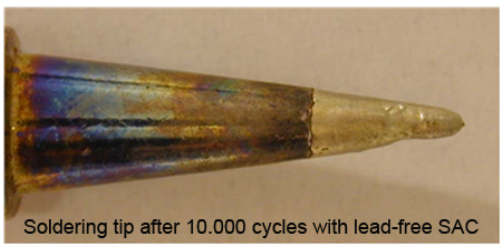


- The quantity of the intermetallic phase is growing over the time. A higher temperature increases the growing rate. This will lead to more migration, more erosion and to a higher risk of oxidation.

Wearing of the Soldering Tip

- The copper core of the soldering tip is covered by an iron layer. The iron layer protects them against corrosion caused by the flux and metallic migration caused by the solder alloy.
- The content of nearly 95% of tin in the lead free alloys is increasing the problem of migration (dissolution) significantly. This reflects a new issue in lead-free environment.
- The corrosion rate and the migration rate and with it the abrasion of the iron layer depends on the solder alloy and the tip temperature.


Soldering tip after 20.000 cycles with SnPb

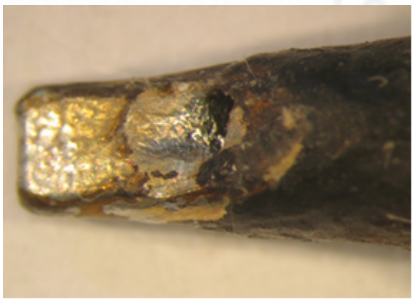

Soldering tip after 10.000 cycles with lead-free SAC

With the use of Weller WSW soldering wire almost the soldering tip service life of leaded solder 60Sn40Pb is reached again.

- Mechanical stress, due to the solder application, is also a contribution for an additional abrasion.
- Sooner or later the soldering tip is worn out by the soldering operations. That means

the iron layer, which protects the copper core material is totally used. The unprotected copper is disappearing very fast caused by the extreme high migration rate and corrosion rate of copper.

- Therefore the durability of the soldering tip is related to the iron layer thickness.
- As soon as the iron layer is worn out the lifetime of the tip is over and this condition will be indicated with a hole in the copper core.



Lochbildung Lötspitze

Cross section of a worn out Tip
Lochbildung

- The wearing process can be divided into three effects
  - **Chemical reaction (corrosion)**
  - **Metallic reaction (migration)**
  - **Mechanical stress**
- A soldering tip is a wearing part. The soldering tip service life can be significantly increased by proper care of the soldering temperature and the correct selection of the soldering wire (Weller WSW).

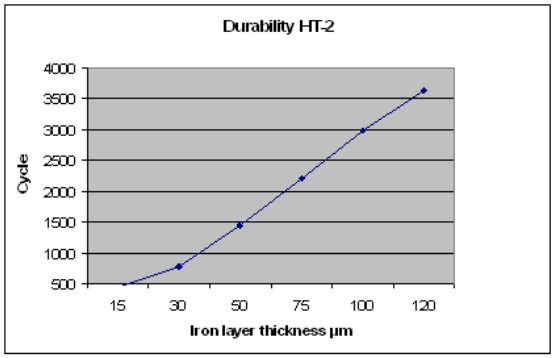
Oxidation of a Soldering Tip

- A soldering tip oxidizes due to the oxygen atmosphere and creates a metallic inactive surface.
- The oxidized surface can often not be reactivated by common flux and remains unwettable.
- The heat transfer of an unwettable soldering tip is significantly lower.

- The risk of oxidation grows up with increasing tip temperature (450°C < 1min).
- A proper coated tip with solder prevents the influence of the oxygen atmosphere and avoids the oxidation.
- Correct maintenance of the soldering tip will reduce the risk of oxidation and unwettability.
  (Temperature, cleaning, setback function, tip activator).

The Iron Layer of a Soldering Tip

- The copper core is covered by a galvanic treated iron layer. The layer thickness is between 150 µm and 400 µm depending on the geometry of the tip.
- The galvanic treatment process is highly sophisticated.
- There is a linear relation between the iron layer thickness and the lifetime.
- The iron layer has 3 important characteristics.

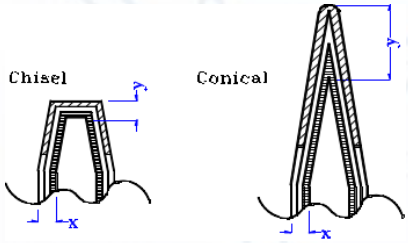


Durability test of a HT 2 soldering tip
with SnAgCu (SAC) solder alloy.
Tip temperature 385°C

- Wearing Protection
- Good wettability
- Heat conductivity is five times lower compared to copper.
  (Disadvantage of the iron layer)

Impact of the iron layer thickness on the soldering tip geometry

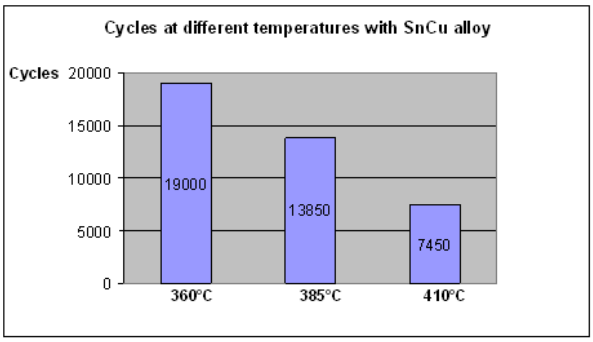
- The iron layer thickness is optimally adapted to the geometry of the soldering tip.
- A thick iron layer is reducing the heat transfer. This affects in particular the fine pointed tips (conical type).
- Those fine pointed tips forming at the front side an area with iron only. Underneath the working area is no more copper to transfer heat.



- For that reason the iron layer thickness is limited by the geometry and is < 150 µm for fine pointed tips. This represents the optimal balance between performance and durability.
- When soldering with fine tips the effect occurs that solder drop spreads out on the wetting surface to the top / rear. By an adapted iron layer thickness, this effect is minimized.

Lifetime under the Impact of the Tip Temperature

- Tip temperature has a significant influence to the tip lifetime.
- The corrosion and migration rate are increasing overproportional.

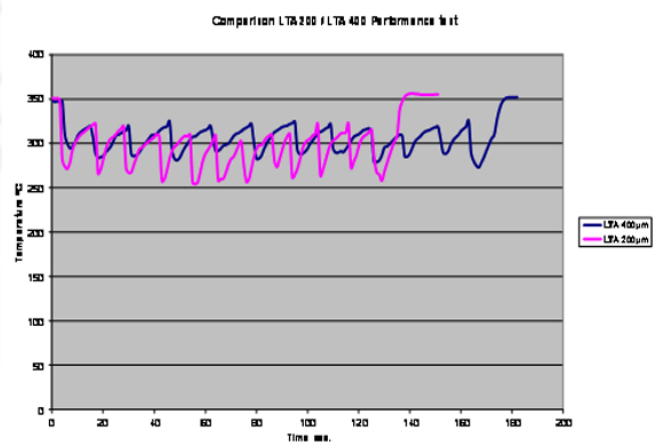


- By using a SC alloy the durability decrease between 360°C and 410°C about 230 soldering operations / °C (40%)

Relation between Iron Thickness and Performance

Performance test with a LTA tip with 200µm compared to 400µm iron layer

With the increase of the iron layer thickness we obtain simultaneously a reduction of the heat transfer behavior. In an attempt to compensate this with an increase in temperature, the situation would get extremely worse. Higher temperatures increase the wearing of the tip with the added risk of oxidation that makes the tip unwettable.



Low temperatures (recommended 350°C – 385°C) and good heat transfer are the basic requirements in dealing with lead-free solder. That is, the use of the maximum soldering tip and the use of a chisel rather than a conical shape is preferred. The used soldering unit is also an important part during soldering with lead-free solder. Losses in heat transfer behavior caused by a higher iron layer thickness can be compensated with a powerful „silver line“ soldering tool. The patented „silver line“ Weller soldering tools meet these requirements through an optimal control performance, fast heat-up times and optimum heat transfer.

Soldering Hints, coping with Lead free

- **Do not exceed 385°C. Lead-free solder do not require higher soldering temperature**
  The wearing rate is increasing significant. Flux is worn out fast and black residues are remaining on the tip surface.
  Lowering of the soldering temperature reduce oxidation and reduce splashing of flux.
- Using the powerful "silver line" soldering tools of Weller with optimal temperature control can avoid the increase of temperature.
- Bigger tips give a better heat transfer. **Use always the biggest possible tip** out of the offering.
- Dry cleaning with **Weller WDC** keep the tip wettability for a longest time.
- **Always take care for a proper tinned tip to prevent oxidation.** Never clean a soldering tip before the tool will be rested in the holder.
- Use all functions and accessories to reduce the tip temperature (stand-by, auto off, stop and go holder) or switch off the soldering tools during breaks.
- Choose the right solder alloy (Micro additive) and flux to reduce wearing of soldering tips.

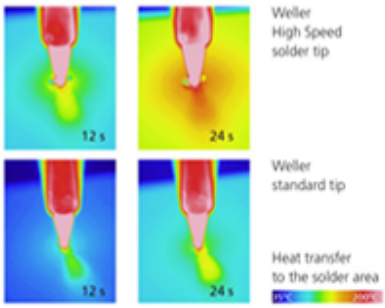
Perfect power package

The Weller power package comprising WSW soldering wire and newly developed Weller High Speed (HS) soldering tips makes it possible to complete soldering work which was previously not possible with standard tips.

High Speed heat transfer

High Speed soldering tips provide enhanced heat transfer to the solder area.

This new soldering system ensures even and consistent wetting. The use of other soldering wires will result in higher wear and poorer performance.



Time savings

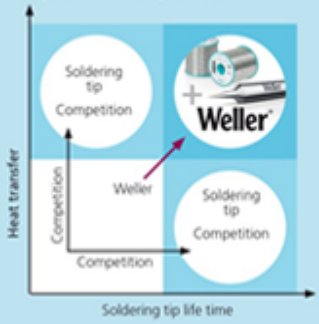
- Increase in productivity by around two times.
- Fast wetting by improved flux technology.

Great cost efficiency

- Reduction in rework costs.
- Massive reduction in costs per solder joints.
- Increase productivity by improved heat transfer.

Performance

New High Speed tips coupled with newly developed solder provide excellent heat transfer together with a longer tip life.



Selective Soldering

Author:
Dr.-Ing. Ernst M. Wolf
CEO Wolf Produktionssysteme GmbH

Contactless soldering with laser beams

Laser soldering has established itself as a single-point soldering process in recent years and is increasingly replacing conventional soldering processes. However, laser soldering is still considered expensive and its major advantages are counterbalanced by downsides.With the right laser soldering technology, the costs can be kept under control and the downsides can to a large extent be eliminated. Solder and flux are of crucial importance in this.

In electronics production today there are many selective soldering processes in use.It is important to distinguish here between the selective soldering processes, which work using wave soldering, and the single-point processes that work with solder wires.

The single-point soldering processes currently in use are

- manual soldering,
- induction soldering, and
- laser soldering.

Whilst soldering irons continue be dominant in manual soldering, they are increasingly being replaced by the two contactless soldering processes, induction and laser soldering.

In induction soldering, the two workpieces that are to be soldered are heated directly, as if from inside. This occurs by means of inducted eddy currents.

Induction soldering is less well suited to soldering on circuit boards with small solder joints. The induction loops available are too large for very small solder joints, which are typical for circuit boards. There is an additional risk that the high-frequency radiation might damage the delicate circuitry.

With laser soldering, even the smallest joints on circuit boards can be soldered. Solder wires of 0.3mm can easily be fed through. For smaller diameters of between 0.3 and 0.1mm, Wolf has now developed a special feed powered by piezo elements.

A typical laser soldering process can be divided into three steps.

Step 1: The laser illuminates the solder joint and heats both of the surfaces to be joined as evenly as possible. This melts the part of the solder wire that is under the laser beam (Fig. 1).

Step 2: The solder wire, now soft, is fed through and melts completely on contact with the pre-heated soldering surfaces (Fig. 2).

Step 3: A pool of molten solder forms into which the remaining quantity of solder required is dispensed.

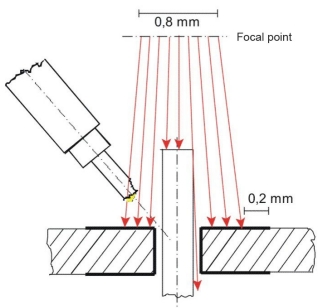


Fig. 1: Correct positioning of the laser beam is crucial when pre-heating the solder joint. The solder wire must not be melted too intensely.

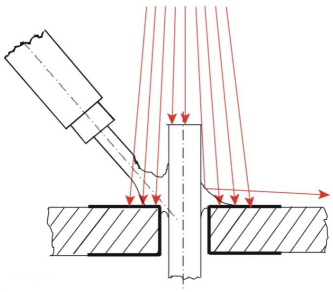


Fig. 2: When feeding the wire into the molten solder, the feed speed is of crucial importance. The quality of the soldering is heavily dependent on the solder's flow and usage characteristics.

For 20 years, Wolf Produktionssysteme of Freudenstadt, southern Germany, has been manufacturing laser soldering systems, which find applications in the most diverse tasks in serial production.

An analysis of this large treasury of experience shows that four essential barriers can stand in the way of successful use of laser soldering:

- burns on the top of the circuit board from reflections on the solder joint (Fig. 3)
- burns underneath the circuit board from laser beams that shine through the gap between pin and circuit board hole (Fig. 4)
- running costs caused by the limited lifespan of the high-performance laser diodes
- soldering faults caused by interruption of the flux core in the solder wire.

The first three points are characteristic of laser soldering; the fourth point is also a barrier for all soldering processes in which solder wire with flux core is used.

The following conceptual approach was chosen for reduction of the characteristic burns. The soldering is done not with one laser beam but with six, each coming from a different angle. This reduces the beam intensity for potential burns by a sixth.

The expense in optics is naturally significant, because six individual optics are necessary. In addition, these must be designed so that they can be calibrated to each other. Nevertheless this has been successfully housed in a compact soldering tool (Fig. 5).

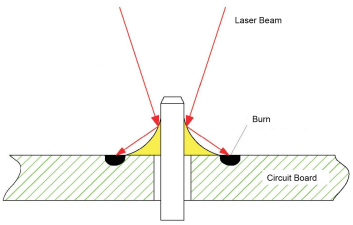


Fig. 3: The burns mostly appear randomly and in a scattered fashion, according to how precisely the solder melts, thereby representing an individual reflection geometry.

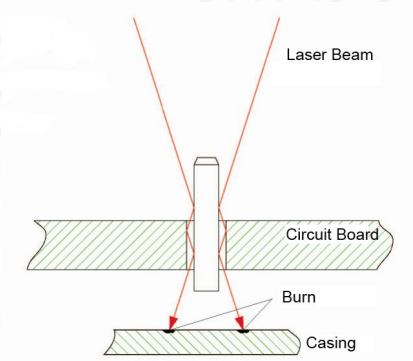


Fig. 4: Penetration of the circuit board by the beam can be minimised, but not prevented, by reducing the gap between the circuit board and the pins of the component.

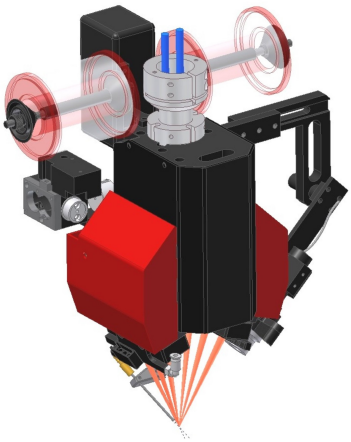


Fig. 5: The newly developed laser soldering tool LLW03 with six laser diode sources, double solder wire feed and a laser power of 60W at a wavelength of 940nm.
The laser diode sources are cooled by Peltier elements; water cooling is unnecessary.
Thanks to the LLW03, the individual laser beams can now be perfectly fine-tuned to the geometry of the joint to be soldered.
All six optics receive input from separate laser sources, each of which has a maximum laser power of 10W. A total laser power of 60W is produced for soldering.
These laser sources with relatively low power have ten times as long a lifespan than the more familiar high-power laser diodes in conventional technology. Depending on the application, the MTBF (mean time between failures) can be as long as 250 000 operating hours.
This means that the running costs of laser soldering are lower than those of manual soldering, because in the latter procedure soldering tips wear out, leading to costs that should not be underestimated.
As another option for higher soldering power, laser sources with double the power are also available.
In order to protect the complex optics from dirt, quick-change protective glass has been provided.
The frequency of cleaning depends to a great extent on the qualities of the flux in the

solder wire.Flux splatter leads to heavy soiling and consequently high maintenance requirements.
The problem of flux gaps in the solder wire has been solved by simultaneous feeding of two solder wires (Fig. 6).

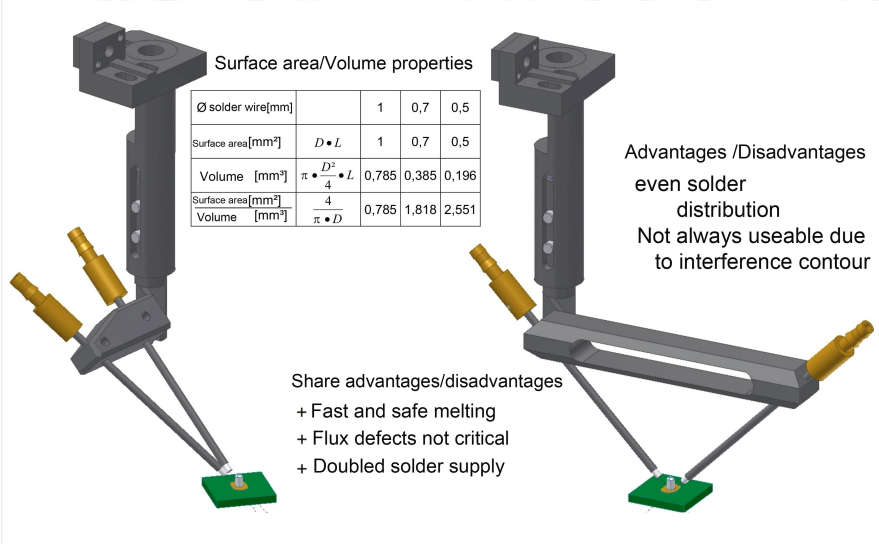


Fig. 6: Instead of one solder wire with a diameter of, usually, 0.7mm, two solder wires of 0.5mm diameter are fed in parallel.
Experience has shown that, within a limited period of a few seconds, good soldering joints can be produced even with a smaller quantity of flux. It is unlikely that both solder wires will have a simultaneous gap in their flux cores. This means there will always be at least 50% of the flux present.
Other important advantages are:
Since two wires have a larger surface area for the same volume of solder fed in than a single wire, the laser beam can melt the solder more quickly.
According to the application, the solder wire feeds can also be arranged on opposite sides to each other. This improves the evenness of the solder distribution on the joints and speeds up the soldering process.
However, for many types of solder joints, especially for very small ones, a double feed is not possible. There is not enough space to accommodate it.
In such cases it is absolutely essential that, in the solder wires used:
- the presence and
- consistent material content
of the flux core is ensured.
The new laser soldering tool is a component of the Wolf laser soldering machines that typically have four programmable axes (Fig. 7).
The familiar equipment features such as
- integrated camera with imaging system for positioning correction and solder-joint checking and
- pyrometer for monitoring the solder temperature

have also, once more, been re-engineered and improved for the new laser soldering tool.

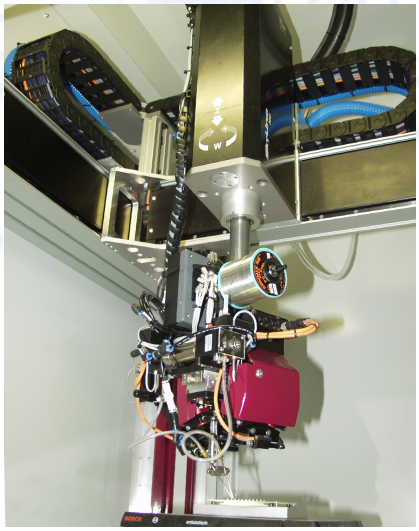


Fig. 7: The laser soldering tool is positioned over the chosen solder joint via a four-axis NC-control device with servo drive.

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SOLDER WIRE
LEAD FREE

Solder wire lead free

SJM-03 S (Sn-0.3Ag-0.7Cu+2.0Bi+α)

SJM-10 S (Sn-1.0Ag-0.7Cu-2.0Bi+α)

SJM-30 (Sn-3.0Ag-2.0Bi)

SJM-35 (Sn-3.5Ag-2.0Bi)

LFM-22 (Sn-0.7Cu)

LFM-22 S (Sn-0.7Cu+α)

LFM-41 S (Sn-0.3Ag-2.0Cu+α)

LFM-48 (Sn-3.0Ag-0.5Cu)

LFM-48 S (Sn-3.0Ag-0.5Cu+α)

LFM-48 M (Sn-3.0Ag-0.5Cu+ß)

LFM-86 (Sn-0.3Ag-0.7Cu)

LFM-86 S (Sn-0.3Ag-0.7Cu+α)

Almit Solder Wire Alloys

Lead Free

	Principal Alloy Components						Melting Range	Features and Benifits
	Sn	Ag	Cu	Bi	Sb	Fe		
LFM-22	99		0.7			0.02	227 °C	Sn-Cu Eutectic
LFM-22 S	99		0.7			0.04	227 °C	Sn-Cu Eutectic, Reduces Tip Consumption
LFM-34	96	3.5				0.02	221 °C	Sn-Ag Eutectic
LFM-41	97	0.3	2.0			0.02	217-270 °C	Minimizes Copper Leaching
LFM-41 S	97	0.3	2.0			0.02	217-271 °C	Minimizes Copper Leaching, Reduces Tip Consumption
LFM-48	96	3.0	0.5			0.02	217-220 °C	SAC, Recommended by JEITA
LFM-48 S	96	3.0	0.5			0.04	217-221 °C	SAC, Recommended by JEITA , Reduces Tip Consumption
LFM-86	99	0.3	0.7			0.02	217-227 °C	SAC, Low Silver Content
LFM-86 S	99	0.3	0.7			0.04	217-228 °C	SAC, Low Silver Content, Reduces Tip Consumption
SJM-03 S	97	0.3	0.7	2.0		0.035	210-226 °C	Low Silver Content, High Reliability/Load Capacity Solder Joints
SJM-10 S	96	1.0	0.7	2.0		0.035	212-224 °C	Low Silver Content, High Reliability/Load Capacity Solder Joints
SJM-30	94	3.0		2.0	1.0	0.02	216-224 °C	High Reliability/Load Capacity Solder Joints
SJM-35	94	3.5		2.0		0.02	216-220 °C	High Silver Content, High Reliability/Load Capacity Solder Joints
SJM-40	94	4.0		2.0		0.02	217-223 °C	High Silver Content, High Reliability/Load Capacity Solder Joints

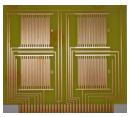
Leaded

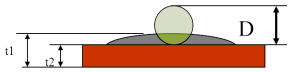
	Principal Alloy Components						Melting Range	Features and Benifits
	Sn	Pb	Ag	Bi	Sb	Fe		
SJ7	62	34.5	3.0		0.5		179-187 °C	High-Tensile and Shear Strength, High Reliability/Load Capacity Solder Joints
60A	60	40					183-190 °C	Standard Leaded Alloy
Sn62	62	36	2.0				179-188 °C	With Silver
Sn63	63	37					183 °C	Eutectic Solder
Sn8	8	92					280-305 °C	High Temperatur Melting Solder
Sn43	43	43		14			135-165 °C	Low Temperatur Melting Solder

Almit Solder Wire Flux

	Flux Composition	Halogens According to IPC-TM-650	Flowability According to IPC-TM-650 on a Cu. Plate 270°C	SIR According to IPC-TM-650
BT-19	RO	L1	81,1 (%)	≥1 x 10^9
Gummix 19 CH	RE	M1	>70 (%)	≥ 1 x 10^8
Gummix 19 NH	RE	L0	>74 (%)	≥ 1 x 10^9
Gummix SB RMA	RE	L1	>78 (%)	≥ 1 x 10^9
Gummix 21 Zeta	RE	L1	>78 (%)	≥ 1 x 10^9
HR-19M	RO	M1	>79 (%)	≥ 1 x 10^8
KR-15	RO	M1	>80 (%)	≥ 1 x 10^8
KR-19	RO	M1	>78 (%)	≥ 1 x 10^8
KR-19 SH RMA	RO	L1	>78 (%)	≥ 1 x 10^9
KR-19 60A	RO	M1	n.a.	≥ 1 x 10^8
KR-28	RO	M1	>80 (%)	≥ 1 x 10^8
NHR-1	RO	L0	n.a.	≥ 1 x 10^9
NHR-TH	RO	L0	n.a.	≥ 1 x 10^9
SR-34	RO	M1	n.a.	≥ 1 x 10^8
SR-34 Super	RO	M1	n.a.	≥ 1 x 10^8
SR-37	RO	M1	n.a.	≥ 1 x 10^8
SR-38	RO	L0	n.a.	≥ 1 x 10^9
SR-55	RO	M1	n.a.	≥ 1 x 10^8
SW-09	RO	H0	>70 (%)	≥ 1 x 10^8
G-14	RO	L1	>70 (%)	≥ 1 x 10^8
SRS-RMA-Nc	RO	L1	>80 (%)	≥ 1 x 10^9

SIR test according to IPC-TM-650:
The most important test for "no clean" flux is the SIR test, in which the existence of 100MΩSIR requirements must be met. The test method is described in the IPC TM 650 2.6.3.3.





Flow performance according to IPC-TM-650 on Cu plate at 270 ° C: The flow behavior is calculated by the following method: D = diameter of the solder ball before soldering. H = t1-t2

Flow Performance in % = DxH/Dx100

SRS RMA Nc SJM High performance solder wire

SRS RMA Nc SJM-03 : (Sn 0.3Ag 0.7Cu 2.0Bi a)
SRS RMA Nc SJM-10 : (Sn 1.0Ag 0.7Cu 2.0Bi a)
SRS RMA Nc SJM-30 : (Sn 3.0Ag 1.0Sb 2.0Bi)
SRS RMA Nc SJM-35 : (Sn 3.5Ag 2.0Bi)
SRS RMA Nc SJM-40 : (Sn 4.0Ag 2.0Bi)

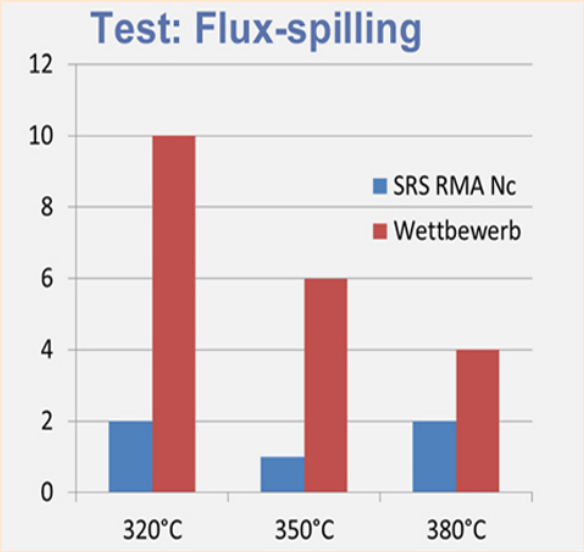
Excellent wetting-,working-and processing properties (RMA conform). Less flux-spillings,unchlorinated and bromine-free solder wire.

SJM-Strong Joint Metal. High-strenth soldering alloy. Extremely good stability and no cracking during curing process!

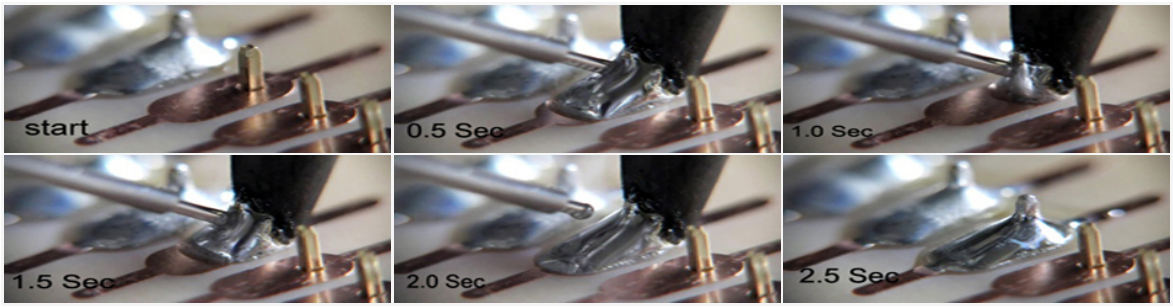
Very good spatter behaviour in comparison with the competitors.

Testmethods:
Spot soldering on copper plate with soldering roboter.
Copper plate lies on thermal paper,counting of flux spillings and solder balls.

Tip temperature: 320°C
Wire feed drive: 5mm
Feed speed: 10mm/sec
Number of solder joints: 20 Punkte
Size of copper plate: 90×15 mm



Improved Wetting-Time - Superior VIA Performance



Unbeatable Vertical Interconnect Access!

Excellent wetting properties, highstrength stability and no cracking!

The SRS Flux is one of the most temperature-stable fluxes on the market and demonstrates excellent wetting abilities.

The unbeatable wetting abilities are characterising the Almit SRS RMA Nc SJM especially for soldering via's!

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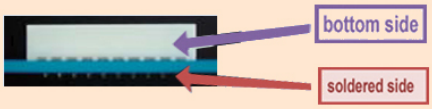
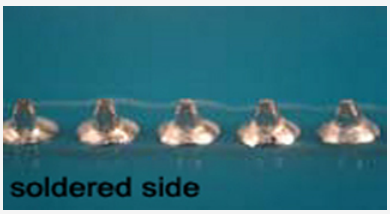
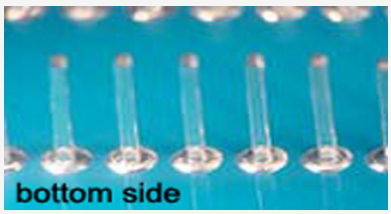
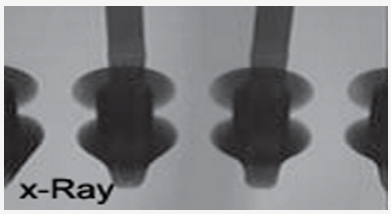




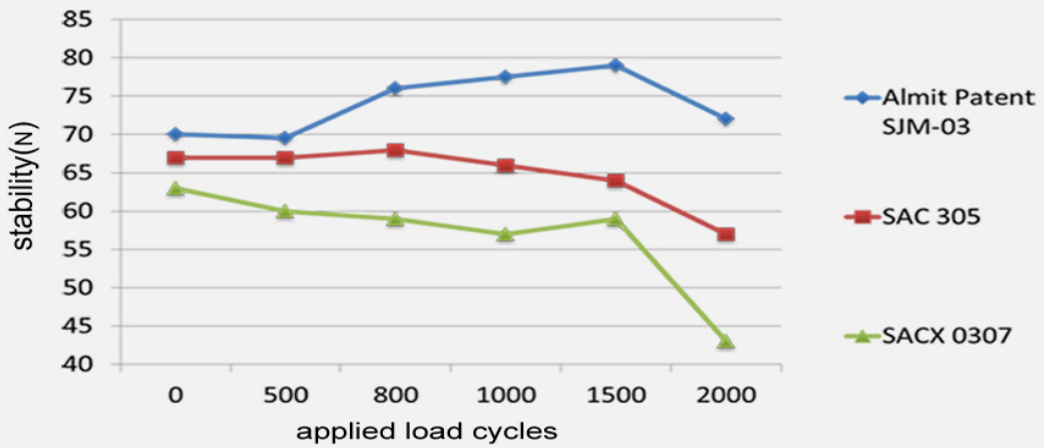




The following diagram proves that the beginning stability of SRS RMA Nc SJM is 6%, and after 2000 applied load cycles 35% better than the stability of SAC305!

The test was made with a temperature from -40°C to +85°C, with a dwell time of 30 minutes,on a 1206 er prefabricated part.

Stability after dynamic applied load

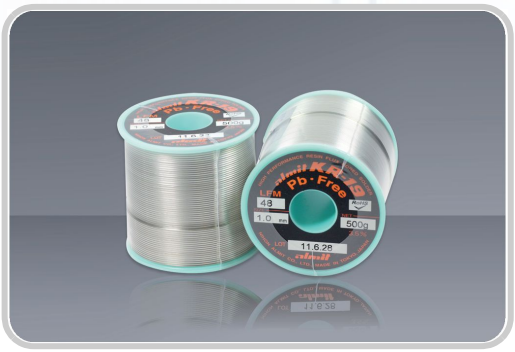


Solder wire lead free

SJM-03 S (Sn-0.3Ag-0.7Cu+2.0Bi+α)

Temperature: 210° - 226°C

Anti tipwastage alloy



Halogene Flux	M1	L1	L0	H0	Special feature
GUMMIX 21Zeta					Laser, high solder joint strength
NHR-TH					Pin in hole application
SRS-RMA-NC					Pin in hole application
SR-LA					

GUMMIX 21Zeta SJM-03 S (3.50%)

Ø	Reel	0.1kg	0.25kg	0.5kg
0.3mm		807 940 10		807 940 50
0.38mm				807 935 50
0.5mm		807 930 10		807 930 50
0.8mm		807 920 10		807 920 50
1.0mm			807 915 25	807 915 50
1.2mm				807 910 50
1.6mm				807 905 50
2.0mm				807 900 50

Please Note: Blue item number are not on stock, please ask for delivery times.

Notes

Solder wire lead free

SJM-03 S (Sn-0.3Ag-0.7Cu+2.0Bi+α)

Temperature: 210° - 226°C

Anti tipwastage alloy

NHR-TH SJM-03 S (3.50%)

Halogene Flux	M1	L1	L0	H0	Special feature
NHR-TH					Pin in hole application

Ø	Reel	0.05kg	0.1kg	0.5kg	1.0kg
0.15mm		807 450 50			
0.2mm			807 445 50		
0.3mm				807 440 50	
0.38mm				807 435 50	
0.5mm				807 430 50	
0.65mm				807 425 50	
0.8mm				807 420 50	
1.0mm				807 415 50	
1.2mm				807 410 50	
1.6mm				807 405 50	
2.0mm				807 400 50	
2.7mm					807 400 27

Please Note: Blue item number are not on stock, please ask for delivery times.

Notes

Solder wire lead free

SJM-03 S (Sn-0.3Ag-0.7Cu+2.0Bi+α)

Temperature: 210° - 226°C

Anti tipwastage alloy

SRS-RMA-NC SJM-03 S (3.50%)

Halogene Flux	M1	L1	L0	H0	Special feature
SRS-RMA-NC					Pin in hole application

Ø	Reel	0.05kg	0.1kg	0.5kg	0.8kg	1.0kg
0.15mm		807 050 50				
0.2mm			807 045 50			
0.3mm				807 040 50		
0.38mm				807 035 50		
0.5mm				807 030 50		
0.65mm				807 025 50		
0.8mm				807 020 50	807 020 99	
1.0mm				807 015 50	807 015 99	
1.2mm				807 010 50	807 010 99	
1.6mm				807 005 50		
2.0mm				807 000 50		
2.7mm						807 000 27

Please Note: Blue item number are not on stock, please ask for delivery times.

Notes

Solder wire lead free

SJM-03 S (Sn-0.3Ag-0.7Cu+2.0Bi+α)

Temperature: 210° - 226°C

Anti tipwastage alloy

SR-LA SJM-03-S

Halogene Flux	M1	L1	L0	H0	Special feature
SR-LA					

Ø	Reel	0.1kg	0.1kg Reel	0.25kg	0.5kg
0.3mm			808 740 10		
0.5mm		808 730 10			808 730 50
0.8mm		808 720 10			808 720 50
1.0mm				808 715 25	808 715 50

Please Note: Blue item number are not on stock, please ask for delivery times.

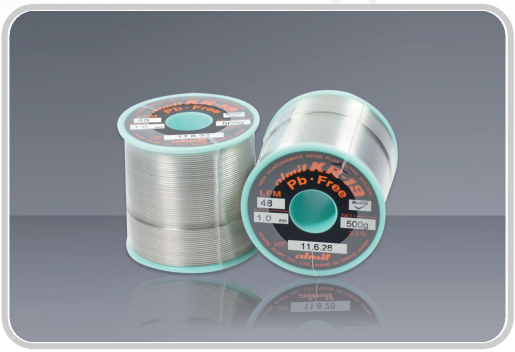
Notes

Solder wire lead free

SJM-10 S (Sn-1.0Ag-0.7Cu-2.0Bi+α)

Temperature: 210° - 226°C

Anti tipwastage alloy



Halogene Flux	M1	L1	L0	H0	Special feature
SRS-RMA-NC					Pin in hole application

SRS-RMA-NC SJM-10 S (3.50%)

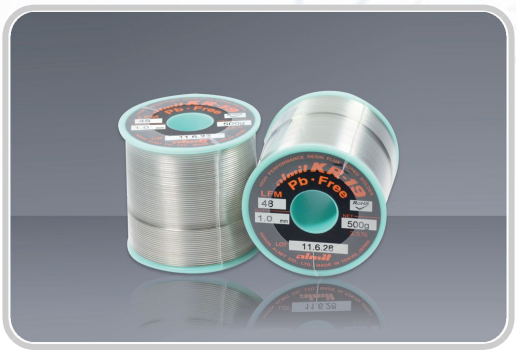
Ø	Reel	0.1kg	0.5kg	1.0kg
0.15mm			807 150 50	
0.2mm		807 145 50		
0.3mm			807 140 50	
0.38mm			807 135 50	
0.5mm			807 130 50	
0.65mm			807 125 50	
0.8mm			807 120 50	
1.0mm			807 115 50	
1.2mm			807 110 50	
1.6mm			807 105 50	
2.0mm			807 100 50	
2.7mm				807 100 27

Please Note: Blue item number are not on stock, please ask for delivery times.

Solder wire lead free

SJM-30 (Sn-3.0Ag-2.0Bi)

Temperature: 216° - 224°C



Halogene Flux	M1	L1	L0	H0	Special feature
SRS-RMA-NC					Pin in hole application

SRS-RMA-NC SJM-30 (3.50%)

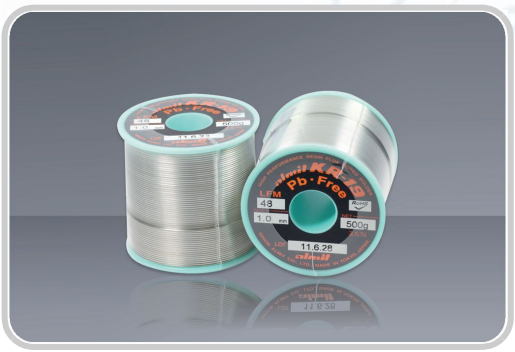
Ø	Reel	0.05kg	0.1kg	0.5kg	1.0kg
0.15mm		807 250 50			
0.2mm			807 245 50		
0.3mm				807 240 50	
0.38mm				807 235 50	
0.5mm				807 230 50	
0.65mm				807 225 50	
0.8mm				807 220 50	
1.0mm				807 215 50	
1.2mm				807 210 50	
1.6mm				807 205 50	
2.0mm				807 200 50	
2.7mm					807 200 27

Please Note: Blue item number are not on stock, please ask for delivery times.

Solder wire lead free

SJM-35 (Sn-3.5Ag-2.0Bi)

Temperature: 216° - 220°C



Halogene Flux	M1	L1	L0	H0	Special feature
SRS-RMA-NC					

SRS-RMA-NC SJM-35 (3.5%)

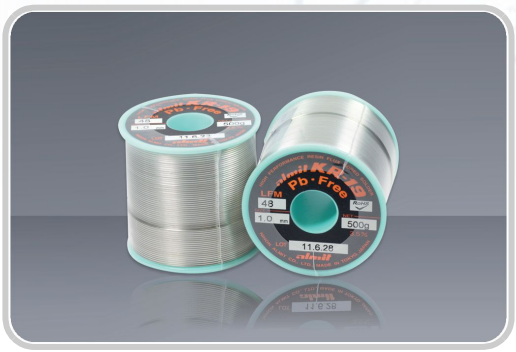
Ø	Reel	0.05kg	0.1kg	0.5kg	1.0kg
0.15mm		807 350 50			
0.2mm			807 345 50		
0.3mm				807 340 50	
0.38mm				807 335 50	
0.5mm				807 330 50	
0.65mm				807 325 50	
0.8mm				807 320 50	
1.0mm				807 315 50	
1.2mm				807 310 50	
1.6mm				807 305 50	
2.0mm				807 300 50	
2.7mm					807 300 27

Please Note: Blue item number are not on stock, please ask for delivery times.

Solder wire lead free

LFM-22 (Sn-0.7Cu)

Temperature: 227°C



Halogene Flux	M1	L1	L0	H0	Special feature
KR 19					Stainless stell, Aluminium soldering
KR-19 SH RMA					high temperature stability

KR-19 LFM-22 (3.50%)

Ø	Reel	0.5kg	1.0kg
0.3mm		801 940 50	
0.38mm		801 935 50	
0.5mm		801 930 50	
0.65mm		801 925 50	
0.8mm		801 920 50	805 820 99
1.0mm		801 915 50	
1.2mm		801 910 50	
1.6mm		801 905 50	
2.0mm		801 900 50	
2.7mm			801 900 27

Please Note: Blue item number are not on stock, please ask for delivery times.

Solder wire lead free

LFM-22 (Sn-0.7Cu)

Temperature: 227°C

Halogene Flux	M1	L1	L0	H0	Special feature
KR-19 SH RMA					high temperature stability

GUMMIX SB RMA LFM-22 (3.50%)

Ø	Reel	0.5kg
0.5mm		806 830 50
0.8mm		806 820 50
1.0mm		806 815 50

Please Note: Blue item number are not on stock, please ask for delivery times.

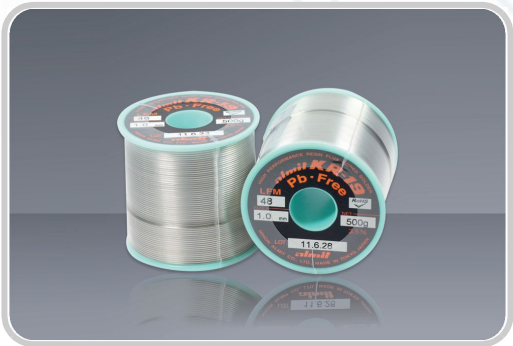
Notes

Solder wire lead free

LFM-22 S (Sn-0.7Cu+α)

Temperature: 227°C

Anti tipwastage alloy



Halogene Flux	M1	L1	L0	H0	Special feature
SR 37					prefered solder wire
KR-19					
GUMMIX 19CH					Laser, difficult surface

SR 37 LFM-22 S (3.50%)

Ø	Reel	0.1kg	0.5kg	0.8kg	1.0kg
0.2mm		802 745 50			
0.3mm			802 740 50		
0.38mm			802 735 50		
0.5mm			802 730 50		
0.65mm			802 725 50	802 725 99	
0.8mm			802 720 50		
1.0mm			802 715 50		
1.2mm			802 710 50		
1.6mm			802 705 50		
2.0mm			802 700 50		
2.7mm					802 700 27

Please Note: Blue item number are not on stock, please ask for delivery times.

Solder wire lead free

LFM-22 S (Sn-0.7Cu+a)

Temperature: 227°C

Anti tipwastage alloy

SR 37 LFM-22 S (2.50%)

Halogene Flux	M1	L1	L0	H0	Special feature
SR 37					prefered solder wire

Ø	Reel	0.5kg
0.5mm		803 730 50
0.8mm		803 720 50
1.0mm		803 715 50
1.2mm		803 710 50

Please Note: Blue item number are not on stock, please ask for delivery times.

KR-19 LFM-22 S (3.50%)

Halogene Flux	M1	L1	L0	H0	Special feature
KR-19					

Ø	Reel	0.5kg
1.2mm		805 810 50

Please Note: Blue item number are not on stock, please ask for delivery times.

Notes

Solder wire lead free

LFM-22 S (Sn-0.7Cu+α)

Temperature: 227°C

Anti tipwastage alloy

Halogene Flux	M1	L1	L0	H0	Special feature
GUMMIX 19CH					Laser, difficult surface

GUMMIX 19CH LFM-22 S (3.50%)

Ø	Reel	0.5kg
0.8mm		806 720 50
1.0mm		806 715 50
1.2mm		806 710 50
1.6mm		806 705 50

Please Note: Blue item number are not on stock, please ask for delivery times.

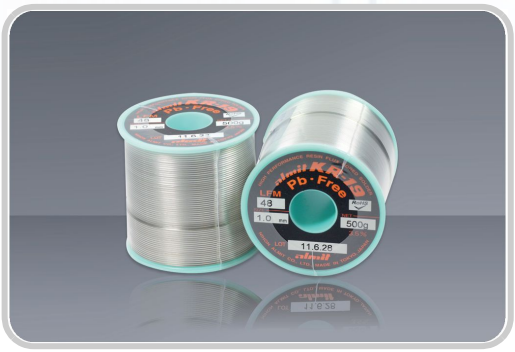
Notes

Solder wire lead free

LFM-41 S (Sn-0.3Ag-2.0Cu+a)

Temperature: 217° - 271°C

Anti tipwastage alloy



Halogene Flux	M1	L1	L0	H0	Special feature
SR 37					prefered solder wire

SR 37 LFM-41 S (3.50%)

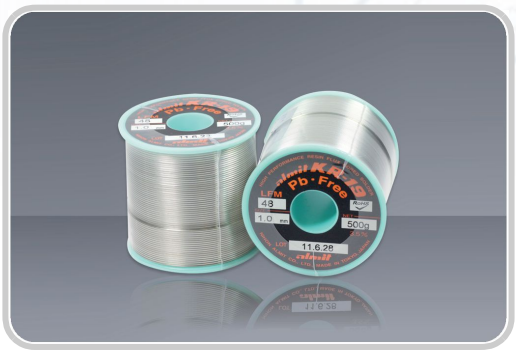
Ø	Reel	0.1kg	0.5kg
0.2mm		802 445 50	
0.3mm			802 440 50
0.38mm			802 435 50
0.5mm			802 430 50
0.65mm			802 425 50
0.8mm			802 420 50
1.0mm			802 415 50
1.2mm			802 410 50
1.6mm			802 405 50
2.0mm			802 400 50

Please Note: Blue item number are not on stock, please ask for delivery times.

Solder wire lead free

LFM-48 (Sn-3.0Ag-0.5Cu)

Temperature: 217° - 220°C



Halogene Flux	M1	L1	L0	H0	Special feature
GUMMIX SB					high temperature stability
GUMMIX SB RMA					high temperature stability
GUMMIX-21 NH					flexible flux up to -40°C
Gummix-19 NH					Laser, 100% Halide free
GUMMIX 19 CH					Laser, difficult surface
SR 37					prefered solder wire
KR-19					

GUMMIX SB RMA LFM-48 (3.50%)

Ø	Reel	0.5kg	0.8kg
0.3mm		801 508 50	
0.38mm		801 507 50	
0.5mm		801 506 50	
0.65mm		801 504 50	801 504 99
0.8mm		801 503 50	
1.0mm		801 502 50	
1.2mm		801 501 50	
1.6mm		801 500 50	
2.0mm		801 500 20	

Please Note: Blue item number are not on stock, please ask for delivery times.

Solder wire lead free

LFM-48 (Sn-3.0Ag-0.5Cu)

Temperature: 217° - 220°C

GUMMIX SB RMA LFM-48 (2.50%)

Halogene Flux	M1	L1	L0	H0	Special feature
GUMMIX SB RMA					high temperature stability

Ø	Reel	0.5kg
0.38mm		801 517 50
0.5mm		801 516 50
0.65mm		801 514 50
0.8mm		801 513 50
1.0mm		801 512 50
1.2mm		801 511 50
1.6mm		801 510 50

Please Note: Blue item number are not on stock, please ask for delivery times.

Notes

Solder wire lead free

LFM-48 (Sn-3.0Ag-0.5Cu)

Temperature: 217° - 220°C

Halogene Flux	M1	L1	L0	H0	Special feature
GUMMIX-21 NH					flexible flux up to -40°C

GUMMIX-21 NH LFM-48 (3.50%)

Ø	Reel	0.5kg
0.5mm		801 830 50
0.8mm		801 820 50
1.0mm		801 815 50
1.2mm		801 810 50

Please Note: Blue item number are not on stock, please ask for delivery times.

Notes

Solder wire lead free

LFM-48 (Sn-3.0Ag-0.5Cu)

Temperature: 217° - 220°C

Gummix-19 NH LFM-48 (3.50%)

Halogene Flux	M1	L1	L0	H0	Special feature
Gummix-19 NH					Laser, 100% Halide free

Ø	Reel	0.5kg	1.0kg
0.2mm		805 645 50	
0.3mm		805 640 50	
0.38mm		805 635 50	
0.5mm		805 630 50	
0.65mm		805 625 50	
0.8mm		805 620 50	
1.0mm		805 615 50	
1.2mm		805 610 50	
1.6mm		805 605 50	
2.0mm		805 600 50	
2.7mm			805 600 27

Please Note: Blue item number are not on stock, please ask for delivery times.

Notes

Solder wire lead free

LFM-48 (Sn-3.0Ag-0.5Cu)

Temperature: 217° - 220°C

GUMMIX 19 CH LFM-48 (3.50%)

Halogene Flux	M1	L1	L0	H0	Special feature
GUMMIX 19 CH					Laser, difficult surface

Ø	Reel	0.5kg	0.8kg
0.3mm		803 640 50	
0.38mm		803 635 50	
0.5mm		803 630 50	
0.65mm		803 625 50	
0.8mm		803 620 50	
1.0mm		803 615 50	803 615 99
1.2mm		803 610 50	
1.6mm		803 605 50	
2.0mm		803 600 50	

Please Note: Blue item number are not on stock, please ask for delivery times.

Notes

Solder wire lead free

LFM-48 (Sn-3.0Ag-0.5Cu)

Temperature: 217° - 220°C

SR 37 LFM-48 (3.50%)

Halogene Flux	M1	L1	L0	H0	Special feature
SR 37					prefered solder wire

Ø	Reel	0.1kg	0.5kg	0.8kg	1.0kg
0.2mm		802 845 50			
0.3mm			802 840 50		
0.38mm			802 835 50		
0.5mm			802 830 50		
0.65mm			802 825 50		
0.8mm			802 820 50		
1.0mm			802 815 50		
1.2mm			802 810 50	802 810 99	
1.6mm			802 805 50		
2.0mm			802 800 50		
2.7mm					802 800 27

Please Note: Blue item number are not on stock, please ask for delivery times.

Notes

Solder wire lead free

LFM-48 (Sn-3.0Ag-0.5Cu)

Temperature: 217° - 220°C

KR-19 LFM-48 (3.50%)

Halogene Flux	M1	L1	L0	H0	Special feature
KR-19					

Ø	Reel	0.1kg	0.5kg	1.0kg
0.2mm		805 145 50		
0.3mm			805 140 50	
0.38mm			805 135 50	
0.5mm			805 130 50	
0.65mm			805 125 50	
0.8mm			805 120 50	
1.0mm			805 115 50	
1.2mm			805 110 50	
1.6mm			805 105 50	
2.0mm			805 100 50	
2.7mm				805 100 27

Please Note: Blue item number are not on stock, please ask for delivery times.

Notes

Almit S-Line Anti tipwastage alloy

LFM-22 S : (Sn 0.7Cu a)
LFM-41 S : (Sn 0.3Ag 2.0Cu a)
LFM-48 S : (Sn 3.0Ag 0.5Cu a)
LFM-86 S : (Sn 0.3Ag 0.7Cu a)
SJM-03 S : (Sn 0.3Ag 0.7Cu 2.0Bi a)
SJM-10 S : (Sn 1.0Ag 0.7Cu 2.0Bi a)

Because of the usage of leadfree soldering material, the tip wastage has increased dramatically! Its three times higher than the tip wastage with leaded material.

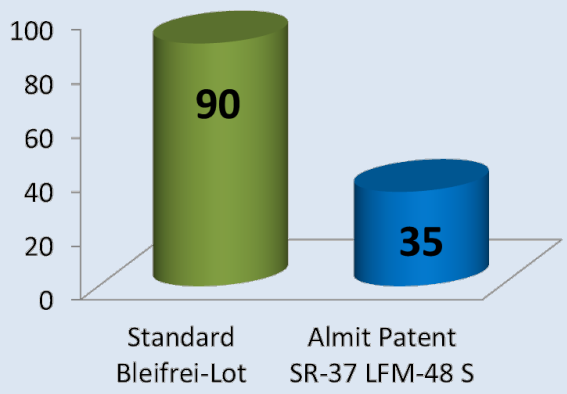
Almit has got new patented alloys which are reducing the tip wastage markabelly when leadfree soldering material is in use.

For example the Almit S-Line Best seller

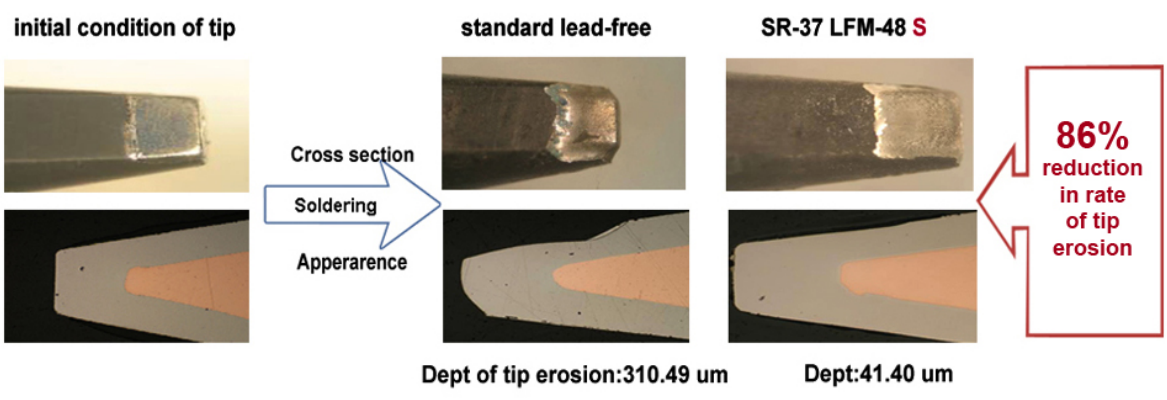
SR-37 LFM-48 S

The result of the reducing iron degradation at the solder-tip is a reduction of the tip wastage of 50 - 70%!

Lötspitzenverbrauch pro Monat

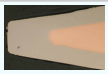
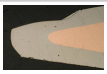


Tip Erosion Durability Test
Test-Condition:Depth measurements of tip erosion after 20,000 solder shots.



Almit Almit reduces your costs!

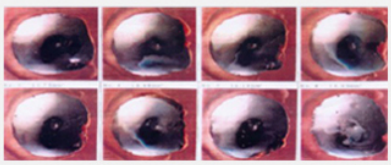
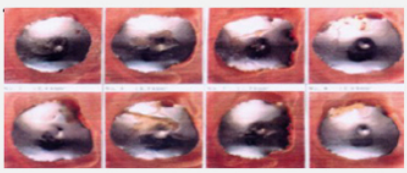
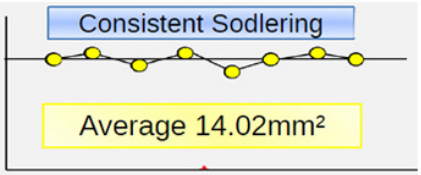
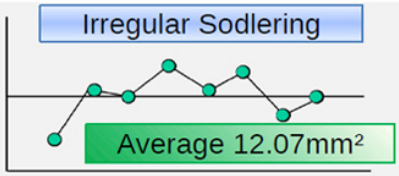
Almit reduces Tip wastage, soldering time and tin-solder consumption!!

Cost reduction Tip wastage		Almit Patent **SR-37 LFM-48 S**	Competitor **Sn 3.0Ag 0.5Cu**
Price solder wire	2kg consumption per week	100€ per kg 200€ per week	70€ per kg 140€ per week
Needed Tips per week		5 	20 
direct heated tip	**20€ per Tip**	100€ per week (+200€ solderwire = 300€)	400€ per week (+140€ solderwire = 540€)
iron-tips for robots	**15€ per Tip**	75€ per Week (+200€ solderwire = 275€)	300€ per Week (+140€ solderwire = 440€)
Standard copper-tip	**5€ per Tip**	25€ per Week (+200€ solderwire = 225€)	100€ per Week (+140€ solderwire = 240€)

Savings with Almit solder wire: up to 240€ per week!

Cost reduction soldering time	Almit Patent **SR-37 LFM-48 S**	Competitor **Sn 3.0Ag 0.5Cu**	**Difference**
Wetting-time with 350°C	2.16 seconds	2.43 seconds	0.27 s -11%

Savings with Almit solder wire: 11% soldering time - labor costs!

Cost reduction Tin-solders consumption	Almit Patent SR-37 LFM-48 S	Competitor Sn 3.0Ag 0.5Cu
Solder-joint		
Soldering		

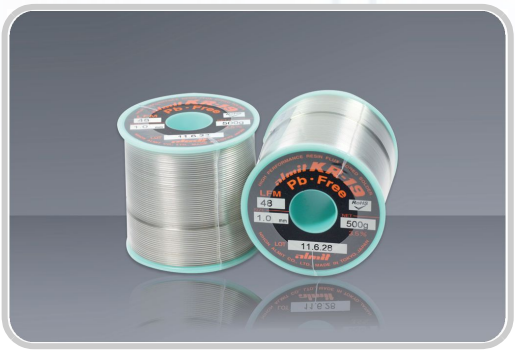
Savings with the usage of Almit solder wire: 16% Tin-solder!

Solder wire lead free

LFM-48 S (Sn-3.0Ag-0.5Cu+α)

Temperature: 217° - 220°C

Anti tipwastage alloy



Halogene Flux	M1	L1	L0	H0	Special feature
SR 37	■				prefered solder wire
NHR-TH			■		Pin in hole application
KR-19	■				Stainless stell, Aluminium soldering
KR 19SH RMA		■			
GUMMIX 19CH	■				Laser, difficult surface
GUMMIX SB RMA		■			less flux spitting

SR 37 LFM-48 S (3.50%)

Ø	Reel	0.1kg	0.5kg	0.8kg	1.0kg
0.2mm		802 945 50			
0.3mm			802 940 50		
0.38mm			802 935 50		
0.5mm		802 930 20	802 930 50		
0.65mm			802 925 50	802 925 99	
0.8mm		802 920 20	802 920 50		
1.0mm			802 915 50	802 915 99	
1.2mm			802 910 50		
1.6mm			802 905 50		
2.0mm			802 900 50		
2.7mm					802 900 27

Please Note: Blue item number are not on stock, please ask for delivery times.

Solder wire lead free

LFM-48 S (Sn-3.0Ag-0.5Cu+α)

Temperature: 217° - 220°C

Anti tipwastage alloy

SR 37 LFM-48 S (2.50%)

Halogene Flux	M1	L1	L0	H0	Special feature
SR 37					prefered solder wire

Ø	Reel	0.5kg
0.5mm		804 130 50
0.8mm		804 120 50
1.0mm		804 115 50
1.2mm		804 110 50

Please Note: Blue item number are not on stock, please ask for delivery times.

SR 37 LFM-48 S (4.50%)

Halogene Flux	M1	L1	L0	H0	Special feature
SR 37					prefered solder wire

Ø	Reel	0.8kg
0.8mm		806 521 99

Please Note: Blue item number are not on stock, please ask for delivery times.

Notes

Solder wire lead free

LFM-48 S (Sn-3.0Ag-0.5Cu+a)

Temperature: 217° - 220°C

Anti tipwastage alloy

NHR-TH LFM-48 S (1.50%)

Halogene Flux	M1	L1	L0	H0	Special feature
NHR-TH					Pin in hole application

Ø	Reel	0.5kg
0.8mm		808 120 50

Please Note: Blue item number are not on stock, please ask for delivery times.

Notes

Solder wire lead free

LFM-48 S (Sn-3.0Ag-0.5Cu+α)

Temperature: 217° - 220°C

Anti tipwastage alloy

NHR-TH LFM-48 S (3.50%)

Halogene Flux	M1	L1	L0	H0	Special feature
NHR-TH					Pin in hole application

Ø	Reel	0.05kg	0.1kg	0.5kg	1.0kg
0.15mm		807 550 50			
0.2mm			807 545 50		
0.3mm				807 540 50	
0.38mm				807 535 50	
0.5mm				807 530 50	
0.65mm				807 525 50	
0.8mm				807 520 50	
1.0mm				807 515 50	
1.2mm				807 510 50	
1.6mm				807 505 50	
2.0mm				807 500 50	
2.7mm					807 500 27

Please Note: Blue item number are not on stock, please ask for delivery times.

Notes

Solder wire lead free

LFM-48 S (Sn-3.0Ag-0.5Cu+a)

Temperature: 217° - 220°C

Anti tipwastage alloy

NHR-TH LFM-48 S (2.50%)

Halogene Flux	M1	L1	L0	H0	Special feature
NHR-TH					Pin in hole application

Ø	Reel	0.5kg
0.8mm		808 220 50

Please Note: Blue item number are not on stock, please ask for delivery times.

KR-19 LFM-48 S (3.50%)

Halogene Flux	M1	L1	L0	H0	Special feature
KR-19					Stainless stell, Aluminium soldering

Ø	Reel	0.5kg	0.8kg
0.8mm		806 320 50	806 320 99

Please Note: Blue item number are not on stock, please ask for delivery times.

Notes

Solder wire lead free

LFM-48 S (Sn-3.0Ag-0.5Cu+α)

Temperature: 217° - 220°C

Anti tipwastage alloy

KR 19SH RMA LFM-48 S (3,5%)

Halogene Flux	M1	L1	L0	H0	Special feature
KR 19SH RMA					

Ø	Reel	0.5kg
0.3mm		806 940 50
0.5mm		806 930 50
0.8mm		806 920 50
1.0mm		806 915 50

Please Note: Blue item number are not on stock, please ask for delivery times.

GUMMIX 19CH LFM-48 S (3.50%)

Halogene Flux	M1	L1	L0	H0	Special feature
GUMMIX 19CH					Laser, difficult surface

Ø	Reel	0.5kg
0.8mm		807 820 50
1.0mm		807 815 50

Please Note: Blue item number are not on stock, please ask for delivery times.

Notes

Solder wire lead free

LFM-48 S (Sn-3.0Ag-0.5Cu+a)

Temperature: 217° - 220°C

Anti tipwastage alloy

Gummix SB-RMA LFM-48-S (3,5%)

Halogene Flux	M1	L1	L0	H0	Special feature
GUMMIX SB RMA					less flux spitting

Ø	Reel	0.5kg
1.0mm		820 415 31

Please Note: Blue item number are not on stock, please ask for delivery times.

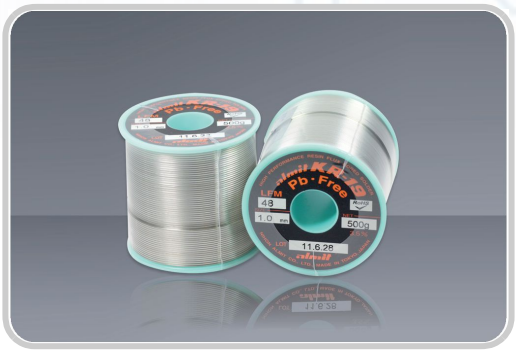
Notes

Solder wire lead free

LFM-48 M (Sn-3.0Ag-0.5Cu+ß)

Temperature: 217° - 220°C

Anti tipwastage alloy



Halogene Flux	M1	L1	L0	H0	Special feature
SR-LA					
Gummix 21Zeta					less flux spitting

SR-LA LFM-48-M (3,5%)

Ø	Reel	0.1kg	0.25kg	0.5kg
0.3mm		808 640 10		
0.5mm		808 630 10		808 630 50
0.8mm		808 620 10		808 620 50
1.0mm			808 615 25	808 615 50

Please Note: Blue item number are not on stock, please ask for delivery times.

Notes

Solder wire lead free

LFM-48 M (Sn-3.0Ag-0.5Cu+ß)

Temperature: 217° - 220°C

Anti tipwastage alloy

Gummix 21Zeta LFM-48-M (3,5%)

Halogene Flux	M1	L1	L0	H0	Special feature
Gummix 21Zeta					less flux spitting

Ø	Reel	0.1kg	0.25kg	0.5kg
0.3mm		808 540 10		
0.5mm		808 530 10		
0.65mm				808 525 50
0.8mm		808 520 10		808 520 50
1.0mm			808 515 25	808 515 50
1.2mm				808 510 50

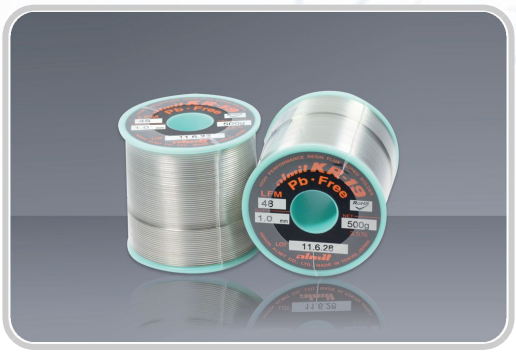
Please Note: Blue item number are not on stock, please ask for delivery times.

Notes

Solder wire lead free

LFM-86 (Sn-0.3Ag-0.7Cu)

Temperature: 217° - 227°C



Halogene Flux	M1	L1	L0	H0	Special feature
SR 37					

SR 37 LFM-86 (3.50%)

Ø	Reel	0.5kg
0.3mm		803 840 50
0.38mm		803 835 50
0.5mm		803 830 50
0.65mm		803 825 50
0.8mm		803 820 50
1.0mm		803 815 50
1.2mm		803 810 50
1.6mm		803 805 50
2.0mm		803 800 50

Please Note: Blue item number are not on stock, please ask for delivery times.

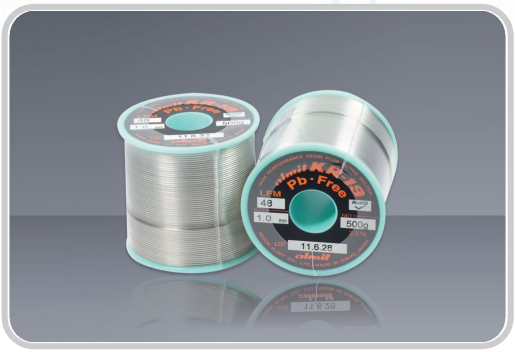
Notes

Solder wire lead free

LFM-86 S (Sn-0.3Ag-0.7Cu+a)

Temperature: 217° - 227°C

Anti tipwastage alloy



Halogene Flux	M1	L1	L0	H0	Special feature
SR 37					prefered solder wire

SR 37 LFM-86 S (3.50%)

Ø	Reel	0.5kg
0.3mm		803 940 50
0.38mm		803 935 50
0.5mm		803 930 50
0.65mm		803 925 50
0.8mm		803 920 50
1.0mm		803 915 50
1.2mm		803 910 50
1.6mm		803 905 50
2.0mm		803 900 50

Please Note: Blue item number are not on stock, please ask for delivery times.

Notes

www.almit.de

SOLDER PASTE
LEAD FREE

Solder paste lead free

Almit Solder Paste Alloys

Lead Free

	Principal Alloy Components								Melting Range	Features & Benefits
	Sn	Ag	Cu	Bi	Sb	Fe	In	Zn		
LFM-14	95	3.5	0.7						217 - 218 °C	SAC - Alloy
LFM-31	89		3					8	190 - 199 °C	Sn - Alloy, Low Silver Alloy
LFM-34	96	3.5							221 °C	Sn-Ag Eutectic
LFM-48	96	3	0.5						217 - 220 °C	JEITA-Recomended SAC-Alloy
LFM-52	93	3.5		0.5					207 - 214 °C	In - Alloy, Low Melting Range
LFM-57	95				5				235 - 240 °C	Sb - Alloy, Very High Melting Range
LFM-65	42			58					139 °C	Sn-Bi Eutectic
LFM-70	88	3.5		0.5			8		194 - 206 °C	In - Alloy, Low Melting Range
LFM-73	98	1	0.5						217 - 227 °C	SAC - Alloy, Low Silver Alloy
LFM-82	95	3.9	0.6						217-218 °C	SAC - Alloy, High Silver Alloy
LFM-86	99	0.3	0.7						217-227 °C	SAC - Alloy, Very Low Silver Alloy
SJM-03	97	0.3	0.7	2		0.01			210-226 °C	Very Low Silver Alloy, High Solder Joint Alloy
SJM-10	36	1	0.7	2		0.01			212-224 °C	Low Silver Alloy, High Solder Joint Alloy
SJM-30	94	3		2	1				216-224 °C	High Silver Alloy, High Solder Joint Alloy
SJM-35	94	3.5		2	1				216-220 °C	Higher Silver Alloy, High Solder Joint Alloy
SJM-40	94	4		2					217-223 °C	Very High Silver Alloy, High Solder Joint Alloy

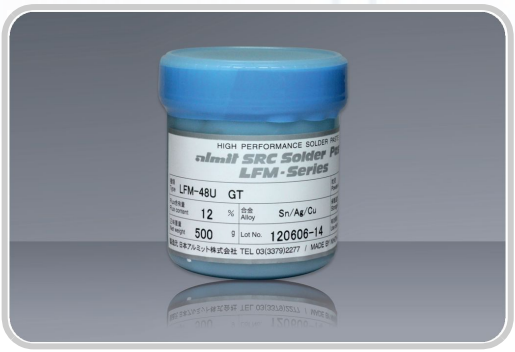
Leaded

	Principal Alloy Components								Melting Range	Features & Benefits
	Sn	Pb	Ag	Bi	Sb	Fe	In	Zn		
Sn63	62	37							183 °C	Sn-Pb Eutektik Alloy
Sn62.8	62.8	36.8							178-183 °C	Low Silver Alloy
Sn62	62	36	2.0						179-190 °C	High Silver Alloy
SJ7	62	34.5	3		0.5				179-187 °C	Strong Solder Joint Alloy
SJS	60	38	1.5		0.5				171-181 °C	High Silver Alloy
SJ-3Bi	57	38	1.5	3	0.5				1701-181 °C	Strong Solder Joint Alloy

Solder paste lead free

SJM-03 (Sn-0.3Ag-0.7Cu-2.0Bi)

Temperature: 210° - 226°C



Halogene Flux	M1	L1	L0	H0	Special feature
NH EB					100% halide free

SJM-03 NH EB (11.50%)

VPE	µm	10-28µm	20-38µm	25-45µm
0.5kg Jar			815 500 99	815 300 99
0.5kg		815 600 99		

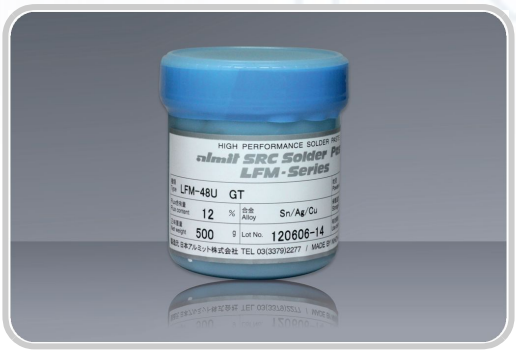
Please Note: Blue item number are not on stock, please ask for delivery times.

Notes

Solder paste lead free

SJM-10 (Sn-1.0Ag-0.7Cu-2.0Bi)

Temperature: 212° - 224°C



Halogene Flux	M1	L1	L0	H0	Special feature
NH EB					100% halide free

SJM-10 NH EB (11.50%)

VPE	µm	10-28µm	20-38µm
0.5kg Jar		815 800 99	815 700 99

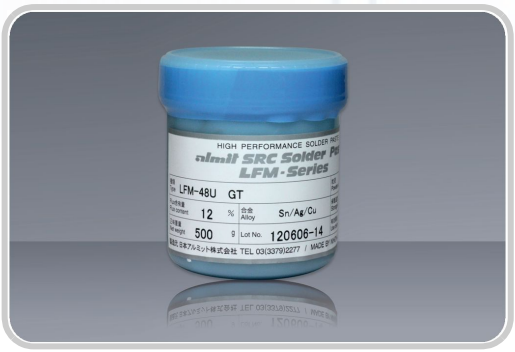
Please Note: Blue item number are not on stock, please ask for delivery times.

Notes

Solder paste lead free

SJM-30 (Sn-3.0Ag-2.0Bi-1.0Sb)

Temperature: 216° - 220°C



Halogene Flux	M1	L1	L0	H0	Special feature
SKB					100% halide free

SJM-30 SKB (11.50%)

VPE	µm	10-28µm	20-38µm
0.5kg Jar		816 000 99	815 900 99

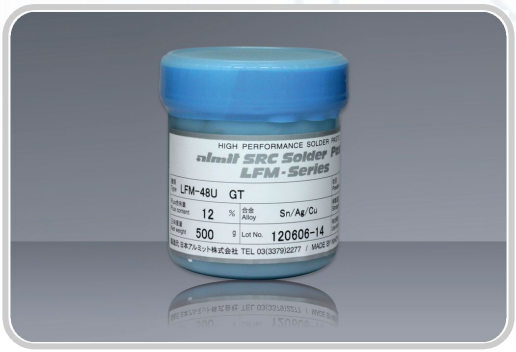
Please Note: Blue item number are not on stock, please ask for delivery times.

Notes

Solder paste lead free

SJM-35 (Sn-3.5Ag-2.0Bi)

Temperature: 216° - 220°C



Halogene Flux	M1	L1	L0	H0	Special feature
SKB					100% halide free

SJM-35 SKB (11.50%)

VPE	µm	20-38µm
0.5kg Jar		816 100 99

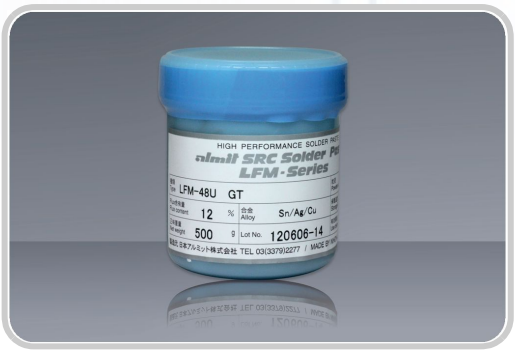
Please Note: Blue item number are not on stock, please ask for delivery times.

Notes

Solder paste lead free

LFM-31 (Sn-8.0Zn-3.0Bi)

Temperature: 190° - 199°C



Halogene Flux	M1	L1	L0	H0	Special feature
MHS 32					

LFM-31 MHS 32 (12%)

VPE	µm	20-38µm	25-45µm
0.5kg Syringe		810 006 99	
0.5kg Jar		810 005 99	810 002 99

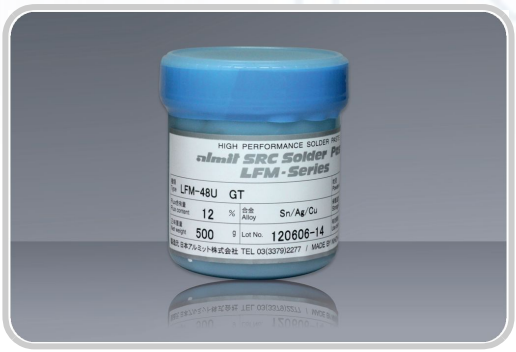
Please Note: Blue item number are not on stock, please ask for delivery times.

Notes

Solder paste lead free

LFM-48 (Sn-3.0Ag-0.5Cu)

Temperature: 217° - 220°C



Halogene / Flux	M1	L1	L0	H0	Special feature
GT					high preheat
GT R					perfect print image
SUC-UI					soldering without nitrogen, high preheat
NH(IMT)					100% halide free
GUMMIX					flexible flux residues
FS					high preheat
SSI-M					laser soldering

LFM-48 GT (12%)

VPE	µm	10-28µm	20-38µm
0.5kg Jar		816 400 99	
1.0kg Syringe			816 310 99
20g Syringe			816 300 10
40g Syringe			816 300 20
100g Kartusche			816 300 35

Please Note: Blue item number are not on stock, please ask for delivery times.

Notes

Solder paste lead free

LFM-48 (Sn-3.0Ag-0.5Cu)

Temperature: 217° - 220°C

LFM-48 GT R (12%)

Halogene Flux	M1	L1	L0	H0	Special feature
GT R		■			perfect print image

VPE	µm	10-28µm	20-38µm	25-45µm
0.5kg Jar		816 700 99	816 500 99	816 600 99

Please Note: Blue item number are not on stock, please ask for delivery times.

LFM-48 SUC-UI (11.50%)

Halogene Flux	M1	L1	L0	H0	Special feature
SUC-UI			■		soldering without nitrogen, high preheat

VPE	µm	10-28µm	20-38µm	25-45µm
0.5kg Jar		811 400 99	811 500 99	
0.5kg Syringe		811 405 99		
0.7kg Proflow		811 415 99	811 515 99	
1.0kg Syringe		811 410 99	811 510 99	811 610 99

Please Note: Blue item number are not on stock, please ask for delivery times.

Notes

Solder paste lead free

LFM-48 (Sn-3.0Ag-0.5Cu)

Temperature: 217° - 220°C

LFM-48 SUC-UI (13%)

Halogene Flux	M1	L1	L0	H0	Special feature
SUC-UI					soldering without nitrogen, high preheat

VPE	µm	10-28µm	20-38µm
0.5kg Syringe		811 402 99	811 502 99
20g Syringe		811 400 10	811 500 10
40g Syringe		811 400 20	811 500 20
80g Syringe		811 400 30	811 500 30

Please Note: Blue item number are not on stock, please ask for delivery times.

LFM-48 NH D (14%)

Halogene Flux	M1	L1	L0	H0	Special feature
NH(IMT)					100% halide free

VPE	µm	20-38µm
20g Syringe		813 600 10
40g Syringe		813 600 20
80g Syringe		813 600 30

Please Note: Blue item number are not on stock, please ask for delivery times.

Notes

Solder paste lead free

LFM-48 (Sn-3.0Ag-0.5Cu)

Temperature: 217° - 220°C

LFM-48 Gummix (12%)

Halogene Flux	M1	L1	L0	H0	Special feature
GUMMIX					flexible flux residues

VPE	µm	20-38µm	25-45µm
0.5kg Jar		812 800 99	812 900 99
0.5kg Syringe		812 805 99	812 905 99
1.0kg Syringe		812 810 99	812 910 99

Please Note: Blue item number are not on stock, please ask for delivery times.

LFM-48 Gummix (14%)

Halogene Flux	M1	L1	L0	H0	Special feature
GUMMIX					flexible flux residues

VPE	µm	20-38µm	25-45µm
20g Syringe		812 800 10	812 900 10
40g Syringe		812 800 20	812 900 20
80g Syringe		812 800 30	812 900 30

Please Note: Blue item number are not on stock, please ask for delivery times.

Notes

Solder paste lead free

LFM-48 (Sn-3.0Ag-0.5Cu)
Temperature: 217° - 220°C

LFM-48 FS (11.50%)

Halogene Flux	M1	L1	L0	H0	Special feature
FS					high preheat

VPE	µm	4-24µm
0.5kg Jar		813 100 99
0.5kg Syringe		813 105 99
1.0kg Syringe		813 110 99

Please Note: Blue item number are not on stock, please ask for delivery times.

LFM-48 SSI-M (12%)

Halogene Flux	M1	L1	L0	H0	Special feature
SSI-M					laser soldering

VPE	µm	20-38µm	25-45µm
0.5kg Jar		813 200 99	813 300 99
0.5kg Syringe		813 205 99	813 305 99
1.0kg Syringe		813 210 99	813 310 99

Please Note: Blue item number are not on stock, please ask for delivery times.

Notes

Solder paste lead free

LFM-48 (Sn-3.0Ag-0.5Cu)

Temperature: 217° - 220°C

LFM-48 SSI-M (13%)

Halogene Flux	M1	L1	L0	H0	Special feature
SSI-M					laser soldering

VPE	µm	10-28µm
20g Syringe		814 900 10
40g Syringe		814 900 20
80g Syringe		814 900 30

Please Note: Blue item number are not on stock, please ask for delivery times.

LFM-48 SSI-M (14%)

Halogene Flux	M1	L1	L0	H0	Special feature
SSI-M					laser soldering

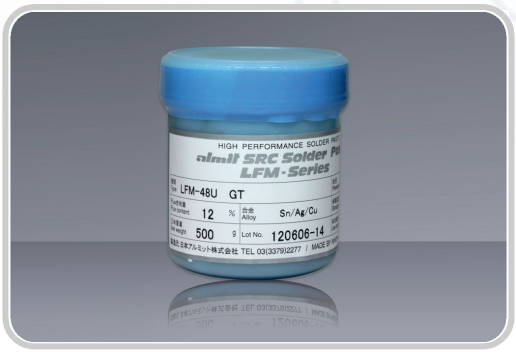
VPE	µm	20-38µm	25-45µm
0.5kg Syringe		813 201 99	
20g Syringe		813 200 10	813 300 10
40g Syringe		813 200 20	813 300 20
80g Syringe		813 200 30	813 300 30

Please Note: Blue item number are not on stock, please ask for delivery times.

Solder paste lead free

LFM-65 (Sn-58.0Bi)

Temperature: 139°C



Halogene Flux	M1	L1	L0	H0	Special feature
A75					low melting application
A75C(L)					low melting application
A75C(L)					low melting application

LFM-65 A75 (12%)

VPE	µm	20-38µm
0.5kg Syringe		809 905 99

Please Note: Blue item number are not on stock, please ask for delivery times.

Notes

Solder paste lead free

LFM-65 (Sn-58.0Bi)

Temperature: 139°C

LFM-65 A75C(L) (11%)

Halogene Flux	M1	L1	L0	H0	Special feature
A75C(L)					low melting application

VPE	µm	20-38µm	25-45µm
0.5kg Syringe		809 805 99	
0.5kg Jar		809 800 99	809 900 99

Please Note: Blue item number are not on stock, please ask for delivery times.

LFM-65 A75C(L) (12%)

Halogene Flux	M1	L1	L0	H0	Special feature
A75C(L)					low melting application

VPE	µm	20-38µm	25-45µm
20g Syringe		809 800 10	809 900 10
40g Syringe		809 800 20	809 900 20
80g Syringe			809 900 30

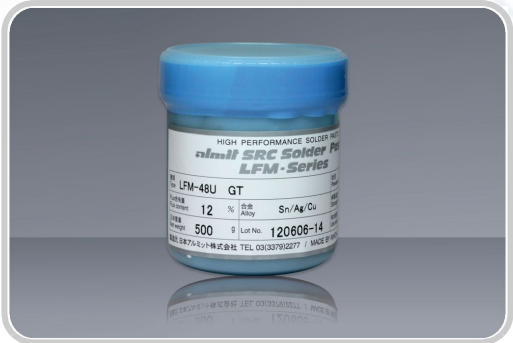
Please Note: Blue item number are not on stock, please ask for delivery times.

Notes

Solder paste lead free

LFM-70 (Sn-3.5Ag-0.5Bi-8.0In)

Temperature: 194° - 206°C



Halogene Flux	M1	L1	L0	H0	Special feature
INP					

LFM-70 INP (11%)

VPE	µm	20-38µm	25-45µm
0.5kg Jar		812 200 99	812 100 99

Please Note: Blue item number are not on stock, please ask for delivery times.

Notes

Solder paste lead free

LFM-70 (Sn-3.5Ag-0.5Bi-8.0In)

Temperature: 194° - 206°C

LFM-70 INP (14%)

Halogene Flux	M1	L1	L0	H0	Special feature
INP		■			

VPE	µm	20-38µm
0.5kg Syringe		812 202 99
20g Syringe		812 200 10
40g Syringe		812 200 20
80g Syringe		812 200 30

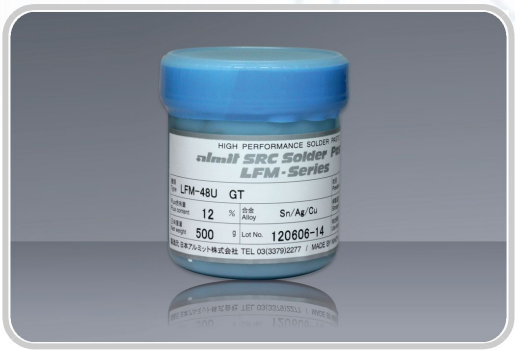
Please Note: Blue item number are not on stock, please ask for delivery times.

Notes

Solder paste lead free

LFM-96

Temperature: 194° - 206°C



Halogene Flux	M1	L1	L0	H0	Special feature
INP					

LFM-96W INP (11%)

VPE	µm	20-38µm
0.5kg Jar		812 252 99

Please Note: Blue item number are not on stock, please ask for delivery times.

Notes

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SOLDER WIRE LEADED

Solder wire leaded

60A (Sn-40Pb)

SJ7 (Sn-34.5Pb-3.0Ag-0.5Sb)

Sn8 (Sn-92Pb)

Sn43 (Sn-43Pb)

Sn62 (Sn-2.0Ag-36.0Pb)

Sn63 (Sn-37.0Pb)

Almit Solder Wire Alloys

Lead Free

	Principal Alloy Components						Melting Range	Features and Benifits
	Sn	Ag	Cu	Bi	Sb	Fe		
LFM-22	99		0.7			0.02	227 °C	Sn-Cu Eutectic
LFM-22 S	99		0.7			0.04	227 °C	Sn-Cu Eutectic, Reduces Tip Consumption
LFM-34	96	3.5				0.02	221 °C	Sn-Ag Eutectic
LFM-41	97	0.3	2.0			0.02	217-270 °C	Minimizes Copper Leaching
LFM-41 S	97	0.3	2.0			0.02	217-271 °C	Minimizes Copper Leaching, Reduces Tip Consumption
LFM-48	96	3.0	0.5			0.02	217-220 °C	SAC, Recommended by JEITA
LFM-48 S	96	3.0	0.5			0.04	217-221 °C	SAC, Recommended by JEITA , Reduces Tip Consumption
LFM-86	99	0.3	0.7			0.02	217-227 °C	SAC, Low Silver Content
LFM-86 S	99	0.3	0.7			0.04	217-228 °C	SAC, Low Silver Content, Reduces Tip Consumption
SJM-03 S	97	0.3	0.7	2.0		0.035	210-226 °C	Low Silver Content, High Reliability/Load Capacity Solder Joints
SJM-10 S	96	1.0	0.7	2.0		0.035	212-224 °C	Low Silver Content, High Reliability/Load Capacity Solder Joints
SJM-30	94	3.0		2.0	1.0	0.02	216-224 °C	High Reliability/Load Capacity Solder Joints
SJM-35	94	3.5		2.0		0.02	216-220 °C	High Silver Content, High Reliability/Load Capacity Solder Joints
SJM-40	94	4.0		2.0		0.02	217-223 °C	High Silver Content, High Reliability/Load Capacity Solder Joints

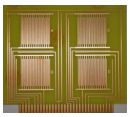
Leaded

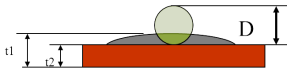
	Principal Alloy Components						Melting Range	Features and Benifits
	Sn	Pb	Ag	Bi	Sb	Fe		
SJ7	62	34.5	3.0		0.5		179-187 °C	High-Tensile and Shear Strength, High Reliability/Load Capacity Solder Joints
60A	60	40					183-190 °C	Standard Leaded Alloy
Sn62	62	36	2.0				179-188 °C	With Silver
Sn63	63	37					183 °C	Eutectic Solder
Sn8	8	92					280-305 °C	High Temperatur Melting Solder
Sn43	43	43		14			135-165 °C	Low Temperatur Melting Solder

Almit Solder Wire Flux

	Flux Composition	Halogens According to IPC-TM-650	Flowability According to IPC-TM-650 on a Cu. Plate 270°C	SIR According to IPC-TM-650
BT-19	RO	L1	81,1 (%)	≥1 x 10^9
Gummix 19 CH	RE	M1	>70 (%)	≥ 1 x 10^8
Gummix 19 NH	RE	L0	>74 (%)	≥ 1 x 10^9
Gummix SB RMA	RE	L1	>78 (%)	≥ 1 x 10^9
Gummix 21 Zeta	RE	L1	>78 (%)	≥ 1 x 10^9
HR-19M	RO	M1	>79 (%)	≥ 1 x 10^8
KR-15	RO	M1	>80 (%)	≥ 1 x 10^8
KR-19	RO	M1	>78 (%)	≥ 1 x 10^8
KR-19 SH RMA	RO	L1	>78 (%)	≥ 1 x 10^9
KR-19 60A	RO	M1	n.a.	≥ 1 x 10^8
KR-28	RO	M1	>80 (%)	≥ 1 x 10^8
NHR-1	RO	L0	n.a.	≥ 1 x 10^9
NHR-TH	RO	L0	n.a.	≥ 1 x 10^9
SR-34	RO	M1	n.a.	≥ 1 x 10^8
SR-34 Super	RO	M1	n.a.	≥ 1 x 10^8
SR-37	RO	M1	n.a.	≥ 1 x 10^8
SR-38	RO	L0	n.a.	≥ 1 x 10^9
SR-55	RO	M1	n.a.	≥ 1 x 10^8
SW-09	RO	H0	>70 (%)	≥ 1 x 10^8
G-14	RO	L1	>70 (%)	≥ 1 x 10^8
SRS-RMA-Nc	RO	L1	>80 (%)	≥ 1 x 10^9

SIR test according to IPC-TM-650:
The most important test for "no clean" flux is the SIR test, in which the existence of 100MΩSIR requirements must be met. The test method is described in the IPC TM 650 2.6.3.3.





Flow performance according to IPC-TM-650 on Cu plate at 270 ° C: The flow behavior is calculated by the following method: D = diameter of the solder ball before soldering. H = t1-t2

Flow Performance in % = DxH/Dx100

Solder wire leaded

60A (Sn-40Pb)

Temperature: 183° - 190°C

Halogene Flux	M1	L1	L0	H0	Special feature
KR-19 60A					Stainless stell, Aluminium soldering
KR-19 RMA					Stainless stell, Aluminium soldering
KR-19 SH RMA					Stainless stell, Aluminium soldering
GUMMIX 19					flexible flux residues
GUMMIX SB RMA					high temperature stability
HR 19M					general application

KR-19 60A (2.20%)

Ø	Reel	0.5kg	1.0kg
0.3mm		800 240 50	
0.38mm		800 235 50	
0.5mm		800 230 50	
0.65mm		800 225 50	
0.8mm		800 220 50	
1.0mm		800 215 50	
1.2mm		800 210 50	
1.6mm		800 205 50	
2.0mm			800 200 50

Please Note: Blue item number are not on stock, please ask for delivery times.

Notes

Solder wire leaded

60A (Sn-40Pb)

Temperature: 183° - 190°C

KR-19 RMA 60A (3.30%)

Halogene Flux	M1	L1	L0	H0	Special feature
KR-19 RMA	■				Stainless stell, Aluminium soldering

Ø	Reel	0.5kg
0.38mm		800 435 50

Please Note: Blue item number are not on stock, please ask for delivery times.

KR-19 SH RMA 60A (2.20%)

Halogene Flux	M1	L1	L0	H0	Special feature
KR-19 SH RMA		■			Stainless stell, Aluminium soldering

Ø	Reel	0.1kg	0.5kg
0.3mm		800 741 50	800 740 50
0.5mm			800 730 50
0.65mm			800 725 50
0.8mm			800 720 50
1.0mm			800 715 50
1.2mm			800 710 50
1.6mm			800 705 50

Please Note: Blue item number are not on stock, please ask for delivery times.

Notes

Solder wire leaded

60A (Sn-40Pb)

Temperature: 183° - 190°C

GUMMIX 19 60A (2.20%)

Halogene Flux	M1	L1	L0	H0	Special feature
GUMMIX 19					flexible flux residues

Ø	Reel	0.5kg	1.0kg
0.5mm		801 164 99	
0.65mm			801 154 99
0.8mm			801 144 99
1.0mm			801 134 99
1.2mm			801 124 99
1.6mm			801 114 99

Please Note: Blue item number are not on stock, please ask for delivery times.

Notes

Solder wire leaded

60A (Sn-40Pb)

Temperature: 183° - 190°C

GUMMIX SB RMA 60A (2.20%)

Halogene Flux	M1	L1	L0	H0	Special feature
GUMMIX SB RMA					high temperature stability

Ø	Reel	0.5kg	1.0kg
0.3mm		801 207 99	
0.38mm		801 206 99	
0.5mm		801 205 99	
0.65mm			801 204 99
0.8mm		801 203 50	801 203 99
1.0mm			801 202 99
1.2mm			801 201 99
1.6mm			801 200 99

Please Note: Blue item number are not on stock, please ask for delivery times.

Notes

Solder wire leaded

60A (Sn-40Pb)

Temperature: 183° - 190°C

HR 19M 60A (2.20%)

Halogene Flux	M1	L1	L0	H0	Special feature
HR 19M					general application

Ø	Reel	0.5kg	1.0kg
0.3mm		801 440 50	
0.38mm		801 435 50	
0.5mm		801 430 50	
0.65mm		801 425 50	801 425 99
0.8mm		801 420 50	801 420 99
1.0mm		801 415 50	
1.2mm		801 410 50	801 410 99
1.6mm		801 405 50	801 405 99

Please Note: Blue item number are not on stock, please ask for delivery times.

Notes

Solder wire leaded

60A (Sn-40Pb)

Temperature: 183° - 190°C

KR-19 RMA 60A (2.20%)

Halogene Flux	M1	L1	L0	H0	Special feature
KR-19 RMA	■				Stainless stell, Aluminium soldering

Ø	Reel	0.5kg
1.0mm		800 315 50

Please Note: Blue item number are not on stock, please ask for delivery times.

KR-19 SH RMA 60A (3.30%)

Halogene Flux	M1	L1	L0	H0	Special feature
KR-19 SH RMA		■			general application

Ø	Reel	0.5kg	0.8kg	1.0kg
0.38mm		800 835 50		
0.5mm		800 830 50		
0.65mm		800 825 50	800 625 99	
0.8mm		800 820 50		800 820 99
1.0mm				800 815 99
1.2mm				800 810 99
1.6mm				800 805 99

Please Note: Blue item number are not on stock, please ask for delivery times.

Solder wire leaded

SJ7 (Sn-34.5Pb-3.0Ag-0.5Sb)

Temperature: 179° - 187°C

Halogene Flux	M1	L1	L0	H0	Special feature
KR-19 SH RMA SJ7					general application

KR-19 SH RMA SJ7 (2.20%)

Ø	Reel	0.5kg
0.3mm		801 240 50
0.5mm		801 230 50
0.65mm		801 225 50
0.8mm		801 220 50
1.0mm		801 215 50
1.2mm		801 210 50
1.6mm		801 210 40

Please Note: Blue item number are not on stock, please ask for delivery times.

Notes

Solder wire leaded

Sn8 (Sn-92Pb)

Temperature: 280° - 305°C

Halogene Flux	M1	L1	L0	H0	Special feature
KR 28					high temperature application

KR 28 Sn8 (2.20%)

Ø	Reel	0.5kg	1.0kg
0.8mm		800 920 50	800 920 99
1.0mm		800 915 50	800 915 99
1.2mm		800 910 50	800 910 99
1.6mm		800 905 50	800 905 99

Please Note: Blue item number are not on stock, please ask for delivery times.

Notes

Solder wire leaded

Sn43 (Sn-43Pb)

Temperature: 135° - 165°C

Halogene Flux	M1	L1	L0	H0	Special feature
KR 15 Sn43					low melting application

KR 15 Sn43 (3.30%)

Ø	Reel	1.0kg
1.0mm		801 315 99

Please Note: Blue item number are not on stock, please ask for delivery times.

Notes

Solder wire leaded

Sn62 (Sn-2.0Ag-36.0Pb)

Temperature: 179° - 188°C

Halogene Flux	M1	L1	L0	H0	Special feature
KR-19 SH RMA					general application

KR-19 SH RMA Sn62 (2.20%)

Ø	Reel	0.5kg	1.0kg
0.3mm		800 790 50	
0.38mm		800 785 50	
0.5mm		800 780 50	
0.65mm		800 775 50	
0.8mm		800 770 50	
1.0mm		800 765 50	
1.2mm		800 760 50	800 760 99
1.6mm		800 755 50	

Please Note: Blue item number are not on stock, please ask for delivery times.

Notes

Solder wire leaded

Sn63 (Sn-37.0Pb)

Temperature: 179° - 182°C

Halogene Flux	M1	L1	L0	H0	Special feature
KR-19 RMA					Stainless stell, Aluminium soldering

KR-19 RMA Sn63 (2.20%)

Ø	Reel	0.5kg	1.0kg
0.3mm		800 540 50	
0.5mm		800 535 50	
0.8mm		800 520 50	
1.0mm		800 515 50	801 015 99

Please Note: Blue item number are not on stock, please ask for delivery times.

Notes

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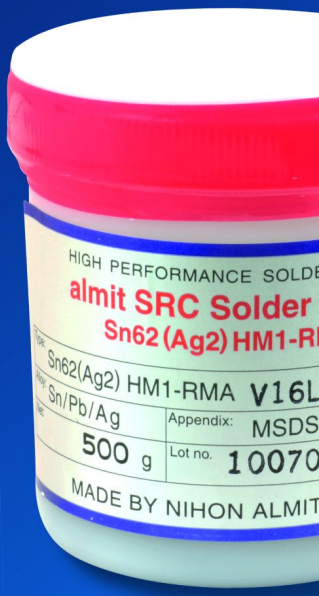

SOLDER PASTE LEADED

Solder paste leaded

Sn62 (Sn-2.0Ag-36Pb)

Sn62.8 (Sn-0.4Ag-36.8Pb)

Sn63 (Sn-37.0Pb)

SJ7 (Sn-34.5Pb-3.0Ag-0.5Sb)

Almit Solder Paste Alloys

Lead Free

	Principal Alloy Components								Melting Range	Features & Benefits
	Sn	Ag	Cu	Bi	Sb	Fe	In	Zn		
LFM-14	95	3.5	0.7						217 - 218 °C	SAC - Alloy
LFM-31	89		3					8	190 - 199 °C	Sn - Alloy, Low Silver Alloy
LFM-34	96	3.5							221 °C	Sn-Ag Eutectic
LFM-48	96	3	0.5						217 - 220 °C	JEITA-Recomended SAC-Alloy
LFM-52	93	3.5		0.5					207 - 214 °C	In - Alloy, Low Melting Range
LFM-57	95				5				235 - 240 °C	Sb - Alloy, Very High Melting Range
LFM-65	42			58					139 °C	Sn-Bi Eutectic
LFM-70	88	3.5		0.5			8		194 - 206 °C	In - Alloy, Low Melting Range
LFM-73	98	1	0.5						217 - 227 °C	SAC - Alloy, Low Silver Alloy
LFM-82	95	3.9	0.6						217-218 °C	SAC - Alloy, High Silver Alloy
LFM-86	99	0.3	0.7						217-227 °C	SAC - Alloy, Very Low Silver Alloy
SJM-03	97	0.3	0.7	2		0.01			210-226 °C	Very Low Silver Alloy, High Solder Joint Alloy
SJM-10	36	1	0.7	2		0.01			212-224 °C	Low Silver Alloy, High Solder Joint Alloy
SJM-30	94	3		2	1				216-224 °C	High Silver Alloy, High Solder Joint Alloy
SJM-35	94	3.5		2	1				216-220 °C	Higher Silver Alloy, High Solder Joint Alloy
SJM-40	94	4		2					217-223 °C	Very High Silver Alloy, High Solder Joint Alloy

Leaded

	Principal Alloy Components								Melting Range	Features & Benefits
	Sn	Pb	Ag	Bi	Sb	Fe	In	Zn		
Sn63	62	37							183 °C	Sn-Pb Eutektik Alloy
Sn62.8	62.8	36.8							178-183 °C	Low Silver Alloy
Sn62	62	36	2.0						179-190 °C	High Silver Alloy
SJ7	62	34.5	3		0.5				179-187 °C	Strong Solder Joint Alloy
SJS	60	38	1.5		0.5				171-181 °C	High Silver Alloy
SJ-3Bi	57	38	1.5	3	0.5				1701-181 °C	Strong Solder Joint Alloy

Solder paste leaded

Sn62 (Sn-2.0Ag-36Pb)

Temperature: 179° - 190°C

Halogene Flux	M1	L1	L0	H0	Special feature
SRC HM1 RMA					

Sn62 SRC HM1 RMA (9.50%)

VPE	µm	20-38µm	25-45µm
0.5kg Jar		800 150 99	800 120 99
0.5kg Syringe		800 151 50	
0.8kg Proflow			
1.5kg Syringe		800 155 99	800 125 99

Please Note: Blue item number are not on stock, please ask for delivery times.

Notes

Solder paste leaded

Sn62 (Sn-2.0Ag-36Pb)

Temperature: 179° - 190°C

Sn62 SRC HM1 RMA T3 (9.50%)

Halogene Flux	M1	L1	L0	H0	Special feature
SRC HM1 RMA		■			

VPE	µm	20-38µm	25-45µm
0.5kg Jar		800 150 50	800 120 50

Please Note: Blue item number are not on stock, please ask for delivery times.

Sn62 SRC HM1 RMA (12%)

Halogene Flux	M1	L1	L0	H0	Special feature
SRC HM1 RMA		■			

VPE	µm	20-38µm	25-45µm
0.7kg Syringe			800 130 99
20g Syringe		800 150 10	
25g Plunger			800 130 11
25g Syringe			800 130 10
40g Plunger		800 150 11	800 130 21
40g Syringe		800 150 20	800 130 20
100g Kartusche		800 150 30	800 130 30

Please Note: Blue item number are not on stock, please ask for delivery times.

Solder paste leaded

Sn62.8 (Sn-0.4Ag-36.8Pb)

Temperature: 178° - 183°C

Halogene Flux	M1	L1	L0	H0	Special feature
SRC HM1					Longer stencil life

Sn62.8 SRC HM1 RMA (9.50%)

VPE	µm	20-38µm	25-45µm
0.5kg Jar		800 154 99	800 132 99

Please Note: Blue item number are not on stock, please ask for delivery times.

Notes

Solder paste leaded

Sn63 (Sn-37.0Pb)

Temperature: 179° - 182°C

Halogene Flux	M1	L1	L0	H0	Special feature
HM1 RMA					

Sn63 HM1 RMA (9.50%)

VPE	µm	20-38µm	25-45µm
0.5kg Jar		800 100 99	800 160 50

Please Note: Blue item number are not on stock, please ask for delivery times.

Notes

Solder paste leaded

SJ7 (Sn-34.5Pb-3.0Ag-0.5Sb)

Temperature: 179° - 187°C

Halogene Flux	M1	L1	L0	H0	Special feature
SJ7 HA2-RA					

SJ7 HA2-RA (10%)

VPE	µm	25-45µm
0.5kg Jar		800 110 99

Please Note: Blue item number are not on stock, please ask for delivery times.

Notes

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GUMMIX SERIES

Gummix Series

LFM-48 S (Sn-3.0Ag-0.5Cu+α)

LFM-48 (Sn-3.0Ag-0.5Cu)

LFM-22 (Sn-0.7Cu)

SJM-03 S (Sn-0.3Ag-0.7Cu+2.0Bi+α)

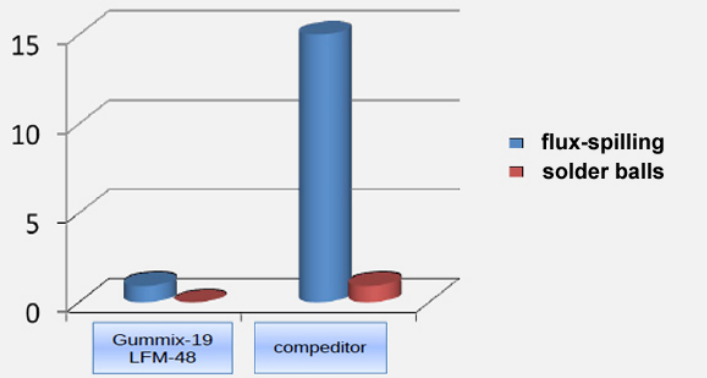
LFM-48 M (Sn-3.0Ag-0.5Cu+ß

LFM-22 S (Sn-0.7Cu+α)

Gummix Series → No flux leftovers, no spillings

Gummix-19 CH **Gummix-19 NH** **Gummix-21 NH** **Gummix SB RMA**	**Developed for high temperatures till 450°C. Popular for soldering by hand and contactless soldering applications. (Laser, induction, xenon-lamp etc.).** **Gummix Series avoids flaking of the flux leftovers and minimizes the flux-spillings. Got excellent quallifications for flexible blanks and prefabricated parts.**

Very good spatter behaviour in comparison with the competitors.



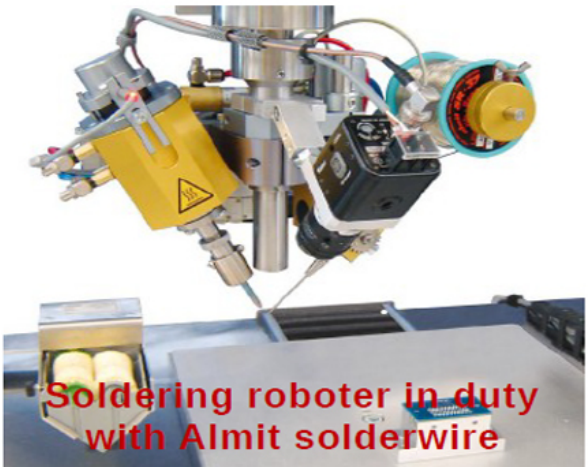
Testresults
competitor gummix series

Almit reduces your costs!

Almit reduces flux-spillings , maintanance- and post-processing costs!

Through minimized spatter behaviour of the Gummix Series with high temperature soldering, any maintanance costs are reduced remarkably!

Even post-processing costs escape almost completely!

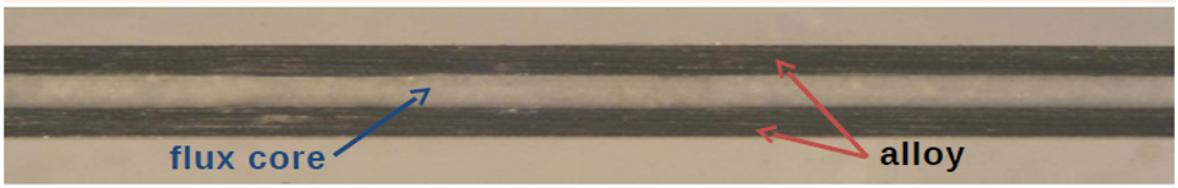


Increase your productivity with Almit!

After changeover to Almit solderwire, Almit automotive customers are producing their products with an Error-Rate of just 4ppm!
(parts per milion)

These low leveled error-rates are achieved because of the very special processing of the Almit flux core. The uninterrupted flux core without any air pockets is the guarantor for always reliable soldering results.

The Almit flux core - cross section

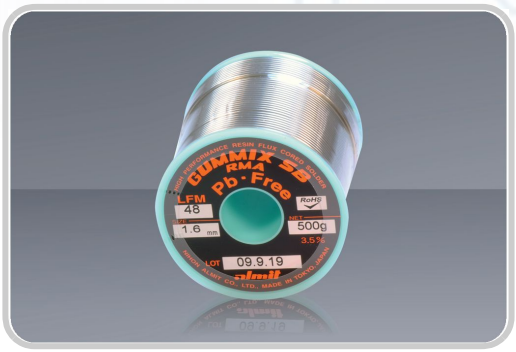


Gummix Series

LFM-48 S (Sn-3.0Ag-0.5Cu+α)

Temperature: 217° - 220°C

Anti tipwastage alloy



Halogene Flux	M1	L1	L0	H0	Special feature
GUMMIX SB RMA					less flux spitting

GUMMIX SB-RMA LFM-48-S (3,5%)

Ø	Reel	0.5kg
1.0mm		820 415 31

Please Note: Blue item number are not on stock, please ask for delivery times.

Notes

Gummix Series

LFM-48 (Sn-3.0Ag-0.5Cu)

Temperature: 217° - 220°C

Halogene Flux	M1	L1	L0	H0	Special feature
GUMMIX SB RMA					less flux spitting
GUMMIX 21NH					Laser, 100% Halide free
GUMMIX 19NH					Laser, 100% Halide free
GUMMIX 19CH					less flux spitting

GUMMIX SB RMA LFM-48 (3.50%)

Ø	Reel	0.5kg	0.8kg
0.3mm		801 508 50	
0.38mm		801 507 50	
0.5mm		801 506 50	
0.65mm		801 504 50	801 504 99
0.8mm		801 503 50	
1.0mm		801 502 50	
1.2mm		801 501 50	
1.6mm		801 500 50	
2.0mm		801 500 20	

Please Note: Blue item number are not on stock, please ask for delivery times.

Notes

LFM-48 (Sn-3.0Ag-0.5Cu)

Temperature: 217° - 220°C

GUMMIX-21 NH LFM-48 (3.50%)

Halogene Flux	M1	L1	L0	H0	Special feature
GUMMIX 21NH					Laser, 100% Halide free

Ø	Reel	0.5kg
0.5mm		801 830 50
0.8mm		801 820 50
1.0mm		801 815 50
1.2mm		801 810 50

Please Note: Blue item number are not on stock, please ask for delivery times.

Notes

Gummix Series

LFM-48 (Sn-3.0Ag-0.5Cu)

Temperature: 217° - 220°C

Gummix-19 NH LFM-48 (3.50%)

Halogene Flux	M1	L1	L0	H0	Special feature
GUMMIX 19NH					Laser, 100% Halide free

Ø	Reel	0.5kg	1.0kg
0.2mm		805 645 50	
0.3mm		805 640 50	
0.38mm		805 635 50	
0.5mm		805 630 50	
0.65mm		805 625 50	
0.8mm		805 620 50	
1.0mm		805 615 50	
1.2mm		805 610 50	
1.6mm		805 605 50	
2.0mm		805 600 50	
2.7mm			805 600 27

Please Note: Blue item number are not on stock, please ask for delivery times.

Notes

LFM-48 (Sn-3.0Ag-0.5Cu)

Temperature: 217° - 220°C

GUMMIX 19 CH LFM-48 (3.50%)

Halogene Flux	M1	L1	L0	H0	Special feature
GUMMIX 19CH					less flux spitting

Ø	Reel	0.5kg	0.8kg
0.3mm		803 640 50	
0.38mm		803 635 50	
0.5mm		803 630 50	
0.65mm		803 625 50	
0.8mm		803 620 50	
1.0mm		803 615 50	803 615 99
1.2mm		803 610 50	
1.6mm		803 605 50	
2.0mm		803 600 50	

Please Note: Blue item number are not on stock, please ask for delivery times.

Notes

Gummix Series

LFM-22 (Sn-0.7Cu)

Temperature: 227°C

Halogene Flux	M1	L1	L0	H0	Special feature
GUMMIX SB RMA					less flux spitting

GUMMIX SB RMA LFM-22 (3.50%)

Ø	Reel	0.5kg
0.5mm		806 830 50
0.8mm		806 820 50
1.0mm		806 815 50

Please Note: Blue item number are not on stock, please ask for delivery times.

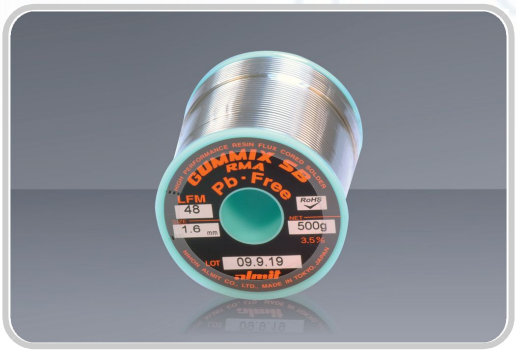
Notes

Gummix Series

SJM-03 S (Sn-0.3Ag-0.7Cu+2.0Bi+α)

Temperature: 210° - 226°C

Anti tipwastage alloy



Halogene Flux	M1	L1	L0	H0	Special feature
GUMMIX 21Zeta					less flux spitting

GUMMIX 21Zeta SJM-03 S (3.50%)

Ø	Reel	0.1kg	0.25kg	0.5kg
0.3mm		807 940 10		807 940 50
0.38mm				807 935 50
0.5mm		807 930 10		807 930 50
0.8mm		807 920 10		807 920 50
1.0mm			807 915 25	807 915 50
1.2mm				807 910 50
1.6mm				807 905 50
2.0mm				807 900 50

Please Note: Blue item number are not on stock, please ask for delivery times.

Notes

Gummix Series

LFM-48 M (Sn-3.0Ag-0.5Cu+ß

Temperature: 217° - 220°C

Halogene Flux	M1	L1	L0	H0	Special feature
GUMMIX 21Zeta					less flux spitting

GUMMIX 21Zeta LFM-48-M (3,5%)

Ø	Reel	0.1kg	0.25kg	0.5kg
0.3mm		808 540 10		
0.5mm		808 530 10		
0.65mm				808 525 50
0.8mm		808 520 10		808 520 50
1.0mm			808 515 25	808 515 50
1.2mm				808 510 50

Please Note: Blue item number are not on stock, please ask for delivery times.

Notes

Gummix Series

LFM-22 S (Sn-0.7Cu+α)

Temperature: 227°C

Anti tipwastage alloy

Halogene Flux	M1	L1	L0	H0	Special feature
GUMMIX 19CH					less flux spitting

GUMMIX 19CH LFM-22 S (3.50%)

Ø	Reel	0.5kg
0.8mm		806 720 50
1.0mm		806 715 50
1.2mm		806 710 50
1.6mm		806 705 50

Please Note: Blue item number are not on stock, please ask for delivery times.

Notes

www.almit.de

SOLDER BARS & SOLID WIRE

Solder bars and solid wire

Solder bars and solid wire

Solder bars and solid wire

LFM-22 H (Sn-0.7Cu)

Temperature: 227°C

LFM-22 H (Sn-0.7Cu)

Reel	Ø	Bars	2.0mm
0.8kg			800 025 10
1.0kg		800 020 04	

Please Note: Blue item number are not on stock, please ask for delivery times.

Notes

Solder bars and solid wire

LFM-34 H (Sn-3.5Ag)

Reel	Ø	Bars
1.0kg		800 020 07

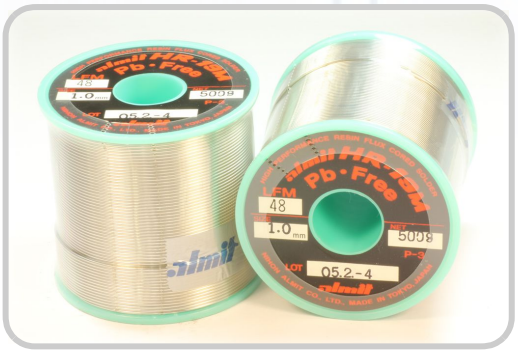
Please Note: Blue item number are not on stock, please ask for delivery times.

Notes

Solder bars and solid wire

LFM-48 H (Sn-3.0Ag-0.5Cu)

Temperature: 217° - 220°C



LFM-48 H (Sn-3.0Ag-0.5Cu)

Reel	Ø	Bars	1.0mm	2.0mm	2.7mm	3.0mm	6.0mm
1.0kg		800 020 00	800 024 10		800 027 10		
1.6kg				800 028 10			
3.0kg						800 030 30	
5.0kg					800 027 50		
20kg							800 026 20

Please Note: Blue item number are not on stock, please ask for delivery times.

Notes

Solder bars and solid wire

LFM-59 H (Sn 3.0Cu)

Temperature: 217° - 312°C

LFM-59 H (Sn 3.0Cu)

Minimizes Cu leaching during soldering at temperatures of 400 °C or higher.

LFM-59 H (Sn 3.0Cu)

Reel	Ø	Bars
1.0kg		800 020 01

Please Note: Blue item number are not on stock, please ask for delivery times.

Notes

Solder bars and solid wire

LFM-62 H (Sn-3,0Cu-0,5Ni)

Temperature: 217° - 394°C

LFM-62 H (Sn-3,0Cu-0,5Ni)

Enables soldering with extremely fine wire thinner than 50 µm at high soldering temperatures over 400 °C

LFM-62 H (Sn-3,0Cu-0,5Ni)

Reel	Ø	Bars	2.0mm
1.0kg		800 020 02	
1.6kg			800 029 10

Please Note: Blue item number are not on stock, please ask for delivery times.

Notes

Solder bars and solid wire

LFM-82 H (Sn-3,9Ag-0,6Cu)
Temperature: 217° - 218°C

LFM-82 H (Sn-3,9Ag-0,6Cu)

Reel	Ø	Bars
1.0kg		800 020 05

Please Note: Blue item number are not on stock, please ask for delivery times.

Notes

Solder bars and solid wire

LFM-86 H (Sn-0,3Ag-0,7Cu)

Temperature: 217° - 227°C

LFM-86 H (Sn-0,3Ag-0,7Cu)

Reel	Ø	Bars
1.0kg		800 020 03

Please Note: Blue item number are not on stock, please ask for delivery times.

www.almit.de

FLUX

Flux

Flux

Almit Flux

Flux for production and reparation. Great force, easy usage.
Every Almit flux has the same good quality abilities like all the other Almit products. Every flux is spezially constituted to avoid soldification.
These abilities are required to fullfill the usage spezifications in aerospace, including the NASA-Space Shuttle.

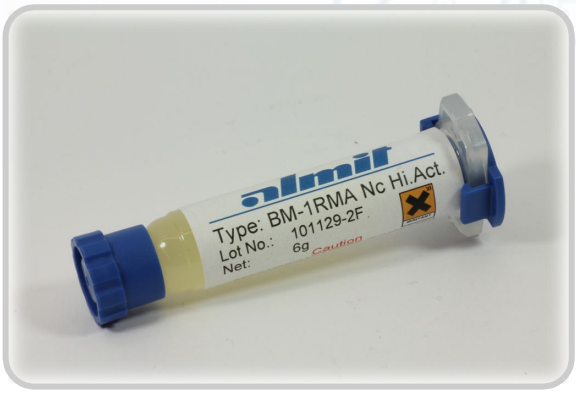
Available Almit Flux

Flux/Features	Solid Content	Specific Gravity	Halogenes	Units
BM-1 RMA Nc	60.0 %	1.081cm³	L1	5cc (6g), 10cc (12g), 30cc (25g), 170g
BM-5000 RMA	27.0 %	0.925 cm³	L1	8ml, 15ml, 250ml, 1000ml, 5000ml
RC-15SH RMA	12.0 %	0.821 cm³	L1	8ml, 15ml, 250ml, 1000ml, 5000ml
RC-281PF	12.0 %	0.815 cm³	M1	8ml, 15ml, 250ml, 1000ml, 5000ml
RF-20A	20.0 %	0.836 cm³	M1	8ml, 15ml, 250ml, 1000ml, 5000ml

Bigger units and different solid contents are available on request

Notes

Flux



BM-1 RMA

Solid Content: 60%

Flux gel "no clean", perfect abilites for BGA, Flip Chip and reworks.

Could be applied via template or dispenser, either mechanical as well as by hand.

CC	Weight	6g Syringe	12g Syringe	15ml	25g Syringe	170g Syringe
-				800 071 30		
5cc		800 073 99				
10cc			800 071 99			
30cc					800 072 99	

Please Note: Blue item number are not on stock, please ask for delivery times.

Notes

Flux

BM-5000 RMA

Solid Content: 27%

Flux "no clean", perfect abilities for BGA-reparation and re-works.

Can be applied either with a Pentel Pen as well as with a brush.

Flux Weight	1 Liter Bottle	5 Liter Container	8ml Pen	15ml Bottle	250ml Bottle
BM-5000, REL1					800 081 99
BM-5000 RMA, REL1	800 081 10	800 081 50	800 065 99		800 081 25
BM-5000 RMA			800 063 99	800 063 15	
BM-5000					800 082 99

Please Note: Blue item number are not on stock, please ask for delivery times.

Notes

Flux

RC-15SH RMA

Solid Content: 12%

Flux "no clean", perfect abilities for reparation and re-works.

Can be applied either with a Pentel Pen as well as with a brush.

Flux	Weight	-	1 Liter Bottle	5 Liter Container	15ml Bottle	20 Liter Container	250ml Bottle
Solder Masking agent							895 000 08
RC-15 SH RMA, ROL1					800 080 15		800 083 16
RC-15 SH RMA		800 060 99	800 083 10	800 080 40		800 080 50	800 083 15

Please Note: Blue item number are not on stock, please ask for delivery times.

Notes

Flux

RC-281PF

RC-281PF

Solid Content: 12%

Flux with very high reliabilty - avoids bridging and solder tails.

Can be applied either with a Pentel Pen as well as with a brush.

Flux	Weight	1 Liter Bottle	5 Liter Container	15ml Bottle	250ml	250ml Bottle
RC-281PF		800 090 10	800 090 50	800 090 15	800 090 26	800 090 25

Please Note: Blue item number are not on stock, please ask for delivery times.

www.almit.de

ACCESSORIES

Accessories

Accessories

Almit Equipment

Equipment from the Almit delivery range. Useful addition to our standard products like solder paste, wires and catridges.

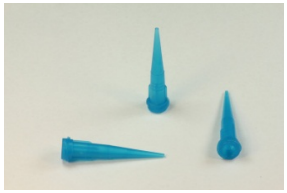
Useful products like for example dosage needles for our despense-catridges, or flux-remover for cleaning off the boards from flux-residues.

Flux-remover

Strengthfull flux remover for flux-residues. Suitable for either leaded as well as lead-free solder-joints.

Dosage needles

Plastic dosage needles for 5cc, 10cc, 30cc catridges.



Solder tip activator

The Almit solder tip activator is a mixture from lead-free solder powder and flux. The special composition cleans and protects the solder tip either with soldering by hand as well as robot soldering.

Desoldering braid

The perfectly usage-matched sizes allow a fast and exact removal of the solder. The work and repair time will be notable decreased and the risk of damage of the printed board because of heat will be minimized.

Solder paste spatula ESD safe

Article	Type	Solder paste spatula ESD safe
Article Number		895 905 99

Please Note: Blue item number are not on stock, please ask for delivery times.

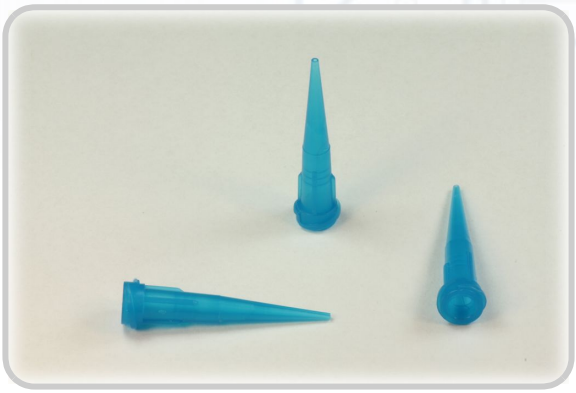
Notes

Hand dispenser

Article	Plunger	for 5cc syringes	for 30cc syringes	for 10cc syringes
Article Number		870 236 22	870 236 10	870 235 96

Please Note: Blue item number are not on stock, please ask for delivery times.

Notes



Dispensing needles

Plastic dosage needles for 5cc, 10cc, 30cc catridges.

Ø	Package	10pcs	50pcs
0.43mm		895 410 10	895 410 50

Please Note: Blue item number are not on stock, please ask for delivery times.

Notes

Desoldering braid

The perfectly usage-matched sizes allow a fast and exact removal of the solder. The work and repair time will be notable decreased and the risk of damage of the printed board because of heat will be minimized.

Ø	Package	Reel 30M	10 Bobbins Jar	25 Bobbins Jar
0.8mm			895 160 15	
1.5mm		895 051 00		895 160 25
2.0mm		895 031 00	895 180 35	895 160 35
2.8mm				895 160 45
3.0mm				895 801 10
3.7mm				895 080 55
5.3mm				895 160 65
5.6mm				895 160 75

Please Note: Blue item number are not on stock, please ask for delivery times.

Notes

Tip cleaner

The Almit solder tip activator is a mixture from lead-free solder powder and flux. The special composition cleans and protects the solder tip either with soldering by hand as well as robot soldering.

Article	Weight	40g
Article Number		895 570 40

Please Note: Blue item number are not on stock, please ask for delivery times.

Notes

Flux removers

Strengthfull flux remover for flux-residues. Suitable for either leaded as well as lead-free solder-joints.

Flux Off Weight	200ml
Water Soluble	895 625 80
Resin	895 630 80
Lead Free	895 620 80
CZ	895 610 80

Please Note: Blue item number are not on stock, please ask for delivery times.

Notes

Solder paste softener

For mixing the solder paste without opening the case. That means less oxidation, less air bubbles insight of the paste and a constant solder-paste quality in the production every day. Furthermore it is possible to save a lot of time because mixing the solder paste by hand is 10 times slower than mixing and preparing it by using the centrifuge.

The mixing machine is available as SPS-1 (for 1 jar), SPS-2 (for 2 jars) und SPS-5 (for 2 syringes).

Article	Type	Malcom SPS-1	Malcom SPS-2	Malcom SPS-5
Article Number		895 650 50	895 700 50	895 750 50

Please Note: Blue item number are not on stock, please ask for delivery times.

almit

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almit

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History

1956

Company established and simultaneously is successful with the practical application of aluminum-use solder.

1958

Aluminum-use solder selected in the "11th Notable Inventions" by the Science and Technology Agency.

1967

Factory and laboratory established in ChoFu-shi

1976

A world First, non-chlorine high-efficient resin-core solder KR-19 is developed.

1982

Nihon Almit's solder KR-19RMA is adopted by NASA space shuttles.

1984

First research lab opens in Akiruno-shi,Tokyo.

1991

Capital Funds increased to 50,000,000 yen.

1992

Micro Joint Laboratories established in Akiruno-shi.

1995

New headquarters building completed in Yayoi-cho, Nakano-ku.

Nasa Space Shuttle

Almit ISO 9001 Certificate

1999
Production Technology Center established in Uenohara, Yamanashi-ku.

2000
Almit GmbH in is founded in Germany, near Stuttgart.

2001
Production Technology Center #2 Production Management Building completed.

2001
Nihon Almit (all companies) received ISO 9001 Quality Management Systems certiFication.

2003
Nihon Almit & Micro Joint Laboratories acquire ISO 14001 Environmental Manage-ment Systems certiFication.

2004
Shanghai Almit established.

2005
Michael Mendel, now responsible For the management of Almit GmbH in Germany, moves with the company to Vielbrunn.

2008
Almit Thailand established.

2014
Almit GmbH in Germany moves to a new industrial park in Michelstadt, near Frankfurt, opening a new logistics and management building of over 1000m2.

Almit Thailand

Almit GmbH in Michelstadt/Germany

Global Network

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E-mail: sz9a@nyp.com.hk

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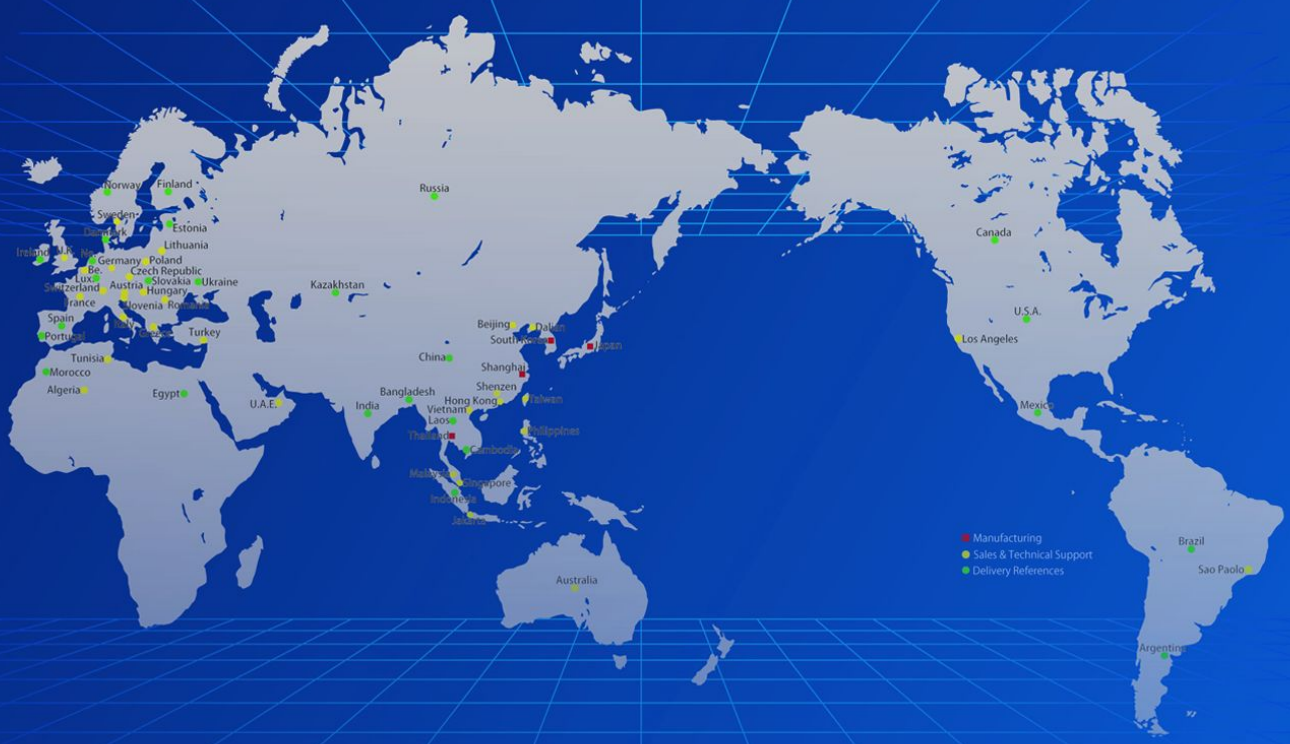

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