

TECHNICAL DATA SHEET

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WARTON METALS LIMITED
Activ8 Cored Solder Wire
 Acid Cored Solder Wire

Description

Activ8 is an acid cored solder wire for metal fabrication. Activ8 will solder brass, bronze, cadmium plating, copper, galvanised wire, iron, lead, mild steel, nickel and nickel plating, resistance wires (most types although flux residues should be removed), silver, spring steel, most stainless steels (using 96S), tinplate and zinc and zinc plating. Activ8 can be used for a variety of uses but should not be used on electronic assemblies.

Flux Residue

Residues of Activ8 would, under dry conditions, be non-corrosive. But as the work is usually exposed to humidity the residue after soldering would, over a period of time, absorb moisture, becoming mildly corrosive. The residue of Activ8 is simply removed with water (preferably warm), but where flame heating is employed the flux will be extensively volatilised by the soldering operation. In addition, it will not contaminate plating baths.

This flux residue, if not removed, is considerably less corrosive than most separate fluid or paste fluxes. If Activ8 is being used in place of stick solder and a fluid flux and the flux residue was not previously removed, there should be no need to do so when using Activ8 cored solder wire.



Availability

| Product | Flux Content | Standard Packaging |
|---------|--------------|---|
| Activ8 | 3% | 0.25Kg, 0.5Kg, 2.5Kg, 3Kg, 5Kg, 10Kg, 15Kg and 25Kg reels |

Other packaging options available. For more information on alternate packaging options please contact our sales team.

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High Purity Solder Alloy

Standardization is important to reduce variety and to promote the quality of products by defining features and characteristics governing their fitness for purpose. The standards promote clear unambiguous communication between purchasers and suppliers for quotation ordering and supply purposes.

In 1994 a single European standard, EN 29453 (ISO 9453), superseded all other European national standards including: BS 219, DIN 1707, NFC 90-550. Other equivalent international standards include J-STD-006, ASTM B32 and JIS-Z-3382.

Warton High Purity Solder Alloys are manufactured using only the 'Highest Purity Virgin Materials' this being part of Warton's simple philosophy that the best raw materials lead to the best finished products.

Below shows a typical batch analysis of the High Purity Tin/Lead used in manufacturing High Purity 63/37.

Typical batch analysis: Tin

| Sn | Sb | Pb | Cu | Zn |
|-------|-------|--------|--------|--------|
| 99.95 | 0.009 | 0.002 | 0.0002 | 0.0001 |
| Fe | As | Ag | Bi | In |
| 0.002 | 0.002 | 0.0001 | 0.0001 | 0.0003 |

Typical batch analysis: Lead

| Sn | Sb | Pb | Cu | Zn |
|-------|--------|-------|-------|--------|
| 0.001 | 0.002 | 99.99 | 0.003 | 0.0001 |
| Fe | As | Ag | Bi | In |
| 0.002 | 0.0005 | 0.002 | 0.005 | 0.0003 |

Typical batch analysis: Warton High Purity 63/37

| Sn | Sb | Pb | Cu | Zn | Fe | As | Ag | Bi | In |
|------|--------|-----------|--------|--------|-------|-------|--------|--------|--------|
| 63.0 | 0.0095 | remainder | 0.0007 | 0.0002 | 0.002 | 0.001 | 0.0005 | 0.0003 | 0.0003 |

These consistent high standards apply not only to all of Warton's high purity solder alloys, but to its entire range of products, inclusive of flux cored and solid solders, liquid fluxes, cleaners and solder paste.

Lead Free Solder Alloys

In accordance with REACH legislation and increasing environmental awareness Warton Metals offer a complete range of 'lead free' alloys to suit all applications.

Warton's range of lead free solder alloys includes:

| Alloy Name | Alloy Breakdown | Melting Temperature °C |
|------------|--------------------|------------------------|
| Tin | Sn100 | 232 |
| 96S | Sn96.5/Ag3.5 | 221 |
| 96/4 | Sn96/Ag4 | 221 |
| 98S | Sn98/Ag2 | 221-226 |
| TSC | Sn95.8/Ag3.5/Cu0.7 | 217-218 |
| SAC405 | Sn95.5/Ag4/Cu0.5 | 217-219 |
| Sc100e | Cu0.5-0.7/Sn Rem | 227 |
| LM10A | Sn87/Ag10/Cu3 | 214-275 |
| SACXP0307 | Sn/Cu0.7/Ag0.3 | 217-227 |
| SAC0307 | Sn99/Ag0.3/Cu0.7 | 217-227 |
| SAC305 | Sn96.5/Ag3/Cu0.5 | 217-220 |
| SAC300 | Sn97/Ag3 | 221-224 |
| SAC3 | Sn96.7/Ag2.8/Cu0.5 | 217-220 |
| SAC2 | Sn97.5/Ag2/Cu0.5 | 217-220 |
| SAC1 | Sn99.2/Ag0.3/Cu0.5 | 217-220 |
| 97C | Sn97/Cu3 | 227-310 |
| 99C | Sn99.3/Cu0.7 | 227 |
| 95A | Sb4.5-5.5/Sn Rem | 235-240 |

Key: Sn-Tin, Ag-Silver, Cu-Copper, Rem-Remainder
Other alloys available

Leaded Solder Alloys

Warton are able to offer a comprehensive range of leaded solder alloys to 'Professional Users' which will be marked as **For Professional Use Only** in accordance with REACH regulations.

Warton's range of leaded solder alloys includes:

| Alloy Name | Alloy Breakdown | Melting Temperature °C |
|---------------|-----------------------|------------------------|
| 60/40 | Sn60/Pb40 | 183-190 |
| 63/37 | Sn63/Pb37 | 183 |
| 50/50 | Sn50/Pb50 | 183-215 |
| 45/55 | Sn45/Pb55 | 183-226 |
| 40/60 | Sn40/Pb60 | 183-238 |
| 35/65 | Sn35/Pb65 | 183-245 |
| 30/70 | Sn30/Pb70 | 183-255 |
| 20/80 | Sn20/Pb80 | 183-280 |
| Alloy 296 HMP | Sn5/Pb92/Ag3 | 296-301 |
| 15/85 | Sn15/Pb85 | 226-290 |
| LMP 62S | Sn62/Pb36/Ag2 | 179 |
| TLS/5 | Sn5/Pb94/Ag1 | 296-301 |
| HMP 5S | Sn5/Pb93.5/Ag1.5 | 296-301 |
| Sn10Pb88Ag2 | Sn10/Pb88/Ag2 | 268-290 |
| Alloy No1 | Sn50/Pb48.6/Cu1.4 | 183-215 |
| Alloy No2 | Sn60/Pb38.2/Cu1.8 | 183-190 |
| 1/99 | Sn1/Pb99 | 300 |
| 60/40 Ant | Sn60/Sb0.2-0.5/Pb Rem | 183-188 |

Key: Sn-Tin, Pb-Lead, Ag-Silver, Cu-Copper, Sb-Antimony, Rem-Remainder
Other alloys available

Please note that not all alloys are available ex-stock and minimum order quantities may apply.

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Wire gauge (Diameter)

The wire gauge (diameter) for Warton solid and flux cored solder wires is represented as SWG (Standard Wire Gauge). The equivalent imperial and metric values are shown below.

| SWG | mm | Inch |
|-----|-------|-------|
| 10 | 3.25 | 0.128 |
| 11 | 2.95 | 0.116 |
| 12 | 2.64 | 0.104 |
| 13 | 2.34 | 0.092 |
| 14 | 2.03 | 0.080 |
| 16 | 1.63 | 0.064 |
| 18 | 1.22 | 0.04 |
| 20 | 0.914 | 0.036 |
| 21 | 0.813 | 0.032 |
| 22 | 0.711 | 0.028 |
| 24 | 0.599 | 0.022 |
| 26 | 0.457 | 0.018 |
| 28 | 0.375 | 0.014 |
| 30 | 0.315 | 0.012 |
| 32 | 0.274 | 0.010 |
| 34 | 0.234 | 0.009 |
| 36 | 0.193 | 0.008 |

Other wire diameters available

Not all wire diameters available in all stocking units.

The information supplied in this technical data sheet is designed only as guidance for the safe use and handling of the product. This information is correct to the best of our knowledge and belief at the date of publication however no guarantee is made to its accuracy. This information related only to the specific material designated and may not be valid for such material used in combination with any other materials or in any other process.

