

**Solder - continued**

**60/40 Alloy, No-Clean Flux - continued**

212520

60/40 Alloy, 400 No-Clean Flux		Price Per Reel			
250g Reels	Order Code	1+	5+	10+	20+
0.71mm	609-961▲	976.00	917.00	854.00	754.00
500g Reels					
0.91mm	609-973▲	1,521.00	1,430.00	1,330.00	1,175.00
0.71mm	609-985▲	1,776.00	1,672.00	1,555.00	1,372.00
60/40 Alloy, 505 No-Clean Flux					
500g Reels					
0.91mm	329-4160▲	1,556.00	1,430.00	1,330.00	1,175.00
0.71mm	329-4158▲	1,776.00	1,672.00	1,555.00	1,372.00
60/40 Alloy, 511 No-Clean Flux					
250g Reels					
0.91mm	609-997▲	849.00	798.00	742.00	655.00
0.71mm	610-008▲	977.00	919.00	856.00	755.00
500g Reels					
0.91mm	610-010▲	1,521.00	1,430.00	1,330.00	1,175.00
0.71mm	610-021▲	1,776.00	1,672.00	1,555.00	1,372.00

**60/40, 40/60 Alloy**



**60/40 Alloy, 362 Rosin Flux**

- Contains five cores of mildly activated, non-corrosive "362" rosin based flux
- Amber coloured (rosin) residues do not require cleaning
- 60% Tin (Sn), 40% Lead (Pb) Alloy
- 180°C melting temperature (tip temperature approximately 308°C)
- For all general purpose electronic assembly and re-work applications

Length mm	Order Code	1+	5+	10+	20+	+	+
1.0	453-584▲	802.00	755.00	716.00	646.00	--	--
1.22	419-266▲	821.00	768.00	732.00	686.00	--	--
0.91	419-278▲	802.00	727.00	673.00	586.00	--	--
0.71	419-280▲	1,097.00	980.00	856.00	688.00	--	--
0.56	419-291▲	1,473.00	1,397.00	1,312.00	1,211.00	--	--
0.46	419-308▲	2,263.00	2,104.00	2,011.00	1,973.00	--	--
1.63	419-310▲	1,222.00	1,113.00	1,030.00	897.00	--	--
1.5	453-572▲	1,222.00	1,150.00	1,092.00	986.00	--	--
1.22	419-321▲	1,340.00	1,291.00	1,191.00	1,078.00	--	--
1	453-596▲	1,417.00	1,332.00	1,265.00	1,140.00	--	--
0.91	419-333▲	1,417.00	1,260.00	1,220.00	1,032.00	--	--
0.71	419-345▲	1,542.00	1,476.00	1,367.00	1,231.00	--	--
0.56	419-357▲	3,386.00	3,146.00	2,846.00	2,430.00	--	--
2.5Kg Reels		1+	4+	8+	20+	+	+
2.03	419-369	5,491.00	4,892.00	4,676.00	3,885.00	--	--

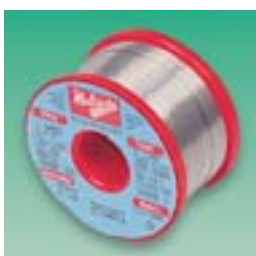
**40/60 Alloy, 362 Rosin Flux**

- Contains five cores of mildly activated, non-corrosive "362" rosin based flux
- Amber coloured (rosin) residues do not require cleaning
- 40% Tin (Sn), 60% Lead (Pb) Alloy
- 234°C melting temperature (tip temperature approximately 354°C)
- Ideal for general soldering of electronic, television, radio and electronic equipment where higher melting point solder wire is required

212671

Length Mftrs. (m)	List No.	Order Code	1+	5+	10+	20+	+	+	
2.03	20	D4014	419-412▲	1,048.00	959.00	928.00	822.00	--	--
1.63	32	D4016	419-424▲	1,028.00	942.00	911.00	806.00	--	--

**Low & High Melting Point**



**Low Melting Point (LMP)**

- Slightly lower melting point than standard 60/40 solder
- 62% Tin (Sn), 36% Lead (Pb), 2% Silver (Ag) Alloy
- 2% silver content prevents leaching and the formation of brittle joints during soldering of silver and gold plated surfaces
- 179°C Melting temperature (tip temperature approximately 299°C)

**High Melting Point (HMP)**

- Suitable for high working temperature applications (electric motors etc)
- Can also be used for selective soldering of adjacent components (i.e. a HMP joint will not melt when an adjacent low temperature solder joint is created subsequently)
- 5% Tin (Sn), 93.5% Lead (Pb), 1.5% Silver (Ag) alloy
- 301°C Melting temperature (tip temperature approximately 421°C)

212673

mm	Length Mftrs. (m)	List No.	Order Code	1+	5+	10+	20+	+	+
Low Temperature 179°C									
250g Reels									
0.71mm	93	DLMP222	419-540▲	1,496.00	1,308.00	1,143.00	1,017.00	--	--
0.56mm	150	DLMP242	419-552▲	1,792.00	1,687.00	1,608.00	1,611.00	--	--
0.46mm	224	DLMP262	419-564▲	2,616.00	2,513.00	2,339.00	2,219.00	--	--
500g Reels									
1.22mm	63	DLMP	419-576▲	2,547.00	2,396.00	2,275.00	2,073.00	--	--
0.71mm	165	DLMP225	419-588▲	2,394.00	2,252.00	2,142.00	1,951.00	--	--
High Temperature 301°C									
500g Reels									
1.22mm	46	DHMP	419-590▲	1,536.00	1,370.00	1,338.00	1,249.00	--	--

**60/40 Alloy, X39 No-Clean Flux**



- Halide free (Zero activation) flux formulation
- Low flux content (1% by weight) - low fuming and low spitting
- Minimal clear residues no not require cleaning
- 60% Tin (Sn), 40% Lead (Pb) Alloy
- 180°C melting temperature (tip temperature approximately 308°C)

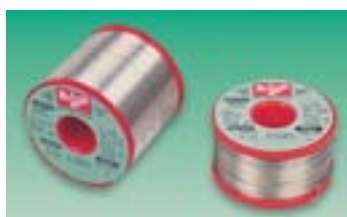
- Flux residues meet reliability requirements of Bellcore and IPC Class 3 specifications
- Suitable for high solderability assembly, or rework of PCBs assembled in a no-clean process, or that have already been cleaned

212681

mm	Length (m)	Order Code	1+	5+	10+	20+
X39, 250g Reels						
1.22mm	30	289-838▲	866.00	773.00	674.00	582.00
0.71mm	89	289-840▲	1,188.00	1,063.00	925.00	746.00
X39, 500g Reels						
1.22mm	61	289-851▲	1,570.00	1,401.00	1,223.00	1,044.00
0.71mm	178	289-863▲	2,006.00	1,854.00	1,617.00	1,229.00

**Solder - Lead Free**

**Lead Free (99C) Alloy, 362 Rosin Flux**



- Lead free 99.3% Tin (Sn), 0.7% Copper (Cu) Alloy
- 227°C Melting point (tip temperature 350°C to 370°C)
- Contains five cores of mildly activated, non-corrosive "362" rosin based flux
- Amber coloured (rosin) residues do not require cleaning

- For all general purpose lead-free electronic assembly and re-work applications
- Complies with all lead-free legislative requirements

212688

Length (m)	Order Code	1+	5+	10+	20+	+	+
250g Reels							
1.22mm	35	289-875●	1,310.00	1,169.00	1,020.00	873.00	--
0.71mm	102	289-887●	1,462.00	1,305.00	1,140.00	985.00	--
500g Reels							
1.22mm	70	289-899●	2,376.00	2,120.00	1,853.00	1,588.00	--
0.71mm	205	289-905●	2,677.00	2,412.00	2,108.00	1,799.00	--

**Introduction to Lead Free Soldering**



Lead-free soldering is a requirement that is soon to be mandatory throughout the entire EU. The legislation is now law and becomes effective from July 2006. Lead-free in electronics is already an accepted and widely practised process in Japan and is rapidly being implemented worldwide.

There are some important issues related to the transition to a lead-free process:

**1. Compatibility**

All soldered surfaces must be free of lead to begin with. This includes both the component and the PCB. Any lead contamination introduced to a lead-free solder joint will significantly reduce the reliability of the joint.

**2. Temperature**

All lead-free alloys melt at a higher temperature than traditional tin/lead alloys (60/40 tin lead is around 180° whereas 99C lead free is around 227°C). This means that the soldering iron temperature may need to be increased and the temperature rating of both components and PCBs needs to be able to withstand these elevated temperatures. These increased temperatures also put greater demand on the flux and it may be necessary to opt for a higher solids content, or more active, flux if the soldering becomes difficult when using lead-free materials.

**3. Inspection**

Lead-free solder joints look a lot different to traditional tin/lead joints. The joints are usually quite dull, and the spread is less - resulting in quite steep contact angles at the perimeter of the solder joint where the solder meets the substrate. This does not mean the joint is faulty. Some studies have proven already that in fact a lead-free solder joint is even more reliable than an equivalent tin/lead joint.

Prices are in Thai Baht and exclude 7% VAT. Due to the volatile nature of certain products, prices are subject to change without notice.