

Description	Page No
Comweld 40/60 Soft Solder	198
Comweld 50/50 Soft Solder	199
Comweld 965 Solder	200
Comweld Metal Mate Solder Kit	201
Comweld Aluminium Flux	202
Comweld Copper and Brass Flux	203
Comweld Silver Brazing Flux No. 2	204
Comweld G.P. Silver Brazing Flux	205
Comweld 965 Soldering Flux	206
Comweld VAPAFLUX	207

COMMWELD 40/60 SOFT SOLDER



- ▲ General Purpose Low Cost Solder.
- ▲ For Sheet Metal & Plumbing Applications.
- ▲ Wide Range of Packaging Options.

Classifications:

AS 1834 Part 1 40Sn.

Description and Applications:

COMMWELD 40/60 Solder is a low cost general purpose solder for general sheet metal work, plumbing (not water pipes) such as gutters and flashings and automotive radiator repairs. Other general applications include the soldering of very light gauge tin coated plate (tin plate) the joining of lead based alloy pipe, the trophy & medallion industry and model making & hobby areas.

Procedure for Soldering:

1. Thoroughly clean all areas to be joined of foreign material.
2. Apply COMMWELD 965 Soldering Flux (321890) to the work area. If using flux cored solder this will be automatic at step four (4).
3. Heat the work surfaces directly by the use of a soldering iron or indirectly by the use of a soft gas flame, such as LPG. Do not overheat.
4. Apply solder to the work area. The molten solder should easily flow and be evenly dispersed in the joint area. Do not over fill with solder.
5. Remove heat source and allow to cool naturally until solder returns to a solid state.
6. Remove all flux residues with water.

Acid Cored & Resin Cored! What are the Differences?

COMMWELD 'RESIN-CORED' solder wire is suitable for safe use on electrical and electronic work such as computers, video recorders, televisions, telephone and telecommunications equipment and other consumer goods without the need to remove the flux residue. The RESIN residue remaining after soldering is non-corrosive and non-conductive and as such means that there cannot be any damage to delicate electrical wires and no new electrical paths can form to cause short-outs or electrical malfunction of the equipment.

The flux inside COMMWELD 'ACID-CORED' wires does not actually contain acid, but the name is given to this flux because it has been formulated to provide a higher level of chemical cleaning action and fluxing activity needed to remove oxide and oxide skins from hard to solder metals such as heavily tarnished copper, copper alloys and difficult materials such as stainless steels that the relatively mild RESIN type flux could not cope with. The flux residues of the ACID-CORED wire are to some extent corrosive and, as such should not be used for electrical work. If possible we recommend that the residues be washed off with water (preferably warm) after soldering.

COLOUR CODE & IDENTIFICATION:

Cored Wire Reels — Green label
Sticks — marked 40/60
Handipack (H/P) Coil, Yellow backing card and label.

JOINING PROCESS:

Soldering only.
SOLDERING IRON bit temperature: 294°C.

TYPICAL ROD ANALYSIS:

Sn: 40% (Tin) Pb: 60% (Lead)

TYPICAL PROPERTIES:

Tensile Strength	42 MPa
Shear Strength	37 MPa
Approximate Melting Range	183–234°C
Electrical Conductivity	10.1% IACS

Packaging Data:

Rod/Wire Size (mm)	Pack Weight/Type	Part No
12 x 6 x 400 (W x B x L)	250g Stick	322305
3.2	250g Acid core Wire	322313
1.6	15g Resin core H/P	322220

COMWELD 50/50 SOFT SOLDER



- ▲ Higher Quality General Purpose Solder.
- ▲ For Electrical & Electronic Applications.
- ▲ Wide Range of Packaging Options.

Classifications:

AS 1834 Part 1 50Sn.

Description and Applications:

COMWELD 50/50 Solder is a higher quality general purpose solder for general sheet metal work, and plumbing (not water pipes) applications where better free flowing characteristics are important.

The Resin Cored COMWELD 50/50 solder is especially suited for electrical and electronic work where residues which remain after soldering are non-corrosive and non-conductive.

Procedure for Soldering:

1. Thoroughly clean all areas to be joined of foreign material.
2. Apply COMWELD 965 Soldering Flux (321890) to the work area. If using flux cored solder this will be automatic at step four (4).
3. Heat the work surfaces directly by the use of a soldering iron or indirectly by the use of a soft gas flame, such as LPG. Do not overheat.
4. Apply solder to the work area. The molten solder should easily flow and be evenly dispersed in the joint area. Do not over fill with solder.
5. Remove heat source and allow to cool naturally until solder returns to a solid state.
6. Remove all flux residues with water.

Acid Cored & Resin Cored! What are the Differences?

COMWELD 'RESIN-CORED' solder wire is suitable for safe use on electrical and electronic work such as computers, video recorders, televisions, telephone and telecommunications equipment and other consumer goods without the need to remove the flux residue. The RESIN residue remaining after soldering is non-corrosive and non-conductive and as such means that there cannot be any damage to delicate electrical wires and no new electrical paths can form to cause short-outs or electrical malfunction of the equipment.

The flux inside COMWELD 'ACID-CORED' wires does not actually contain acid, but the name is given to this flux because it has been formulated to provide a higher level of chemical cleaning action and fluxing activity needed to remove oxide and oxide skins from hard to solder metals such as heavily tarnished copper, copper alloys and difficult materials such as stainless steels that the relatively mild RESIN type flux could not cope with. The flux residues of the ACID-CORED wire are to some extent corrosive and, as such should not be used for electrical work. If possible we recommend that the residues be washed off with water (preferably warm) after soldering.

COLOUR CODE & IDENTIFICATION:

Cored Wire Reels — Orange Label
Sticks — marked 50/50.

JOINING PROCESS:

Soldering only.
SOLDERING IRON bit temperature: 272°C.

TYPICAL ROD ANALYSIS:

Sn: 50% (Tin) Pb: 50% (Lead)

TYPICAL PROPERTIES:

Tensile Strength	45 MPa
Shear Strength	40 MPa
Approximate Melting Range	183–212°C
Electrical Conductivity	10.9% IACS

Packaging Data:

Rod/Wire Size (mm)	Pack Weight/Type	Part No
12 x 6 x 400 (W x B x L)	250g Stick	322306
3.2	250g Solid Wire	322310
	500g Acid Core Wire	322318
1.6	250g Acid Core Wire	322317
	250g Resin Core Wire	322319

COMWELD 965 SOLDER (SOFT SILVER SOLDER)



- ▲ Highest Strength Soft Solder.
- ▲ Lead, Zinc and Cadmium Free.
- ▲ Non Toxic Solder For Electrical, Surgical and Food Equipment Applications.
- ▲ Wide Range of Packaging Options.

Classifications:

AS 1834 Part 1 96.5Sn / 3.5Ag.

Description and Applications:

COMWELD 965 Solder is a tin / silver eutectic solder which has the highest strength of all soft solders. Due to its high strength, good electrical and thermal conductivity, non toxicity (lead, zinc and cadmium free) and also the fact that it remains bright and shiny, make COMWELD 965 Solder the most universal of soft solders.

Comweld 965 Solder is used for the joining and repair of copper, bronze, brass, nickel, monel, steel, stainless steel, pewter, chrome plate, metal sculpture, model making, costume jewellery and or a combination of metals with the exception of aluminium and magnesium. It is used in the manufacture and repair of refrigeration, air conditioning, heating, surgical and food equipment and for reliable electrical connections subject to high service stresses and temperatures.

Comweld 965 Solder is often preferable due to its much lower melting point than silver brazing alloys, which eliminates the need for excessive heating during joining. Non Toxic Solder.

Procedure for Soldering:

1. Thoroughly clean all areas to be joined of foreign material.
2. Apply COMWELD 965 Soldering Flux (321890) to the work area. If using flux cored solder this will be automatic at step four (4).
3. Heat the work surfaces indirectly by the use of a soldering iron or by the use of a soft gas flame, such as LPG or Air-Acetylene.
4. Do not overheat.
5. Melt off small amount of alloy and play the flame onto the solder until it flows into the joint and bonds.
6. Continue until joint is complete.
7. Remove all flux residues with water.

Acid Cored Wire! Does it contain Acid?

The flux inside COMWELD 'ACID-CORED' wires does not actually contain acid, but the name is given to this flux because it has been formulated to provide a higher level of chemical cleaning action and fluxing activity needed to remove oxide and oxide skins from hard to solder metals such as heavily tarnished copper, copper alloys and difficult materials such as stainless steels that the relatively mild RESIN type flux could not cope with. The flux residues of the ACID-CORED wire are to some extent corrosive and, as such should not be used for electrical work. If possible we recommend that the residues be washed off with water (preferably warm) after soldering.

COLOUR CODE & IDENTIFICATION:

Blue Labels and backing cards.

JOINING PROCESS:

Soldering only.

SOLDERING IRON bit temperature: 281°C.

TYPICAL ROD ANALYSIS:

Sn: 96.5% (Tin) Ag: 3.5% (Silver)

TYPICAL PROPERTIES:

Tensile Strength	60 MPa
Density	7.5g/cm ³
Approximate Melting Point	221°C
Electrical Conductivity	17% IACS

Packaging Data:

Rod/Wire Size (mm)	Pack Weight/Type	Part No
3.2	250g Solid Wire	322320
	500g Solid Wire	322321
1.6	250g Acid Core Wire	322324
	15g HandiPack Coil Acid Core Wire	322221



- ▲ Highest Strength Soft Solder.
- ▲ Lead, Zinc and Cadmium Free.
- ▲ Non Toxic Solder For Electrical, Surgical and Food Equipment Applications.

Classifications:

AS 1834 Part 1

96.5Sn / 3.5Ag.

Description and Applications:

COMWELD Metal Mate Solder Kit contains a 14 gram 965 solid solder coil complete with a 14 ml bottle of COMWELD 965 Soldering Flux which provides a very compact package suitable for all of the applications recommended for the standard Comweld 965 Soft Solder.

COMWELD 965 Solder is a tin / silver eutectic solder which has the highest strength of all soft solders. Due to its high strength, good electrical and thermal conductivity, non toxicity (lead, zinc and cadmium free) and also the fact that it remains bright and shiny, make COMWELD 965 Solder the most universal of soft solders.

Comweld 965 Solder is used for the joining and repair of copper, bronze, brass, nickel, monel, steel, stainless steel, pewter, chrome plate, metal sculpture, model making, costume jewellery and or a combination of metals with the exception of aluminium and magnesium.

It is used in the manufacture and repair of refrigeration, air conditioning, heating, surgical and food equipment and for reliable electrical connections subject to high service stresses and temperatures.

Comweld 965 Solder is often preferable due to its much lower melting point than silver brazing alloys, which eliminates the need for excessive heating during joining. Non Toxic Solder.

Procedure for Soldering:

1. Thoroughly clean all areas to be joined of foreign material.
2. Apply COMWELD 965 Soldering Flux to the work area.
3. Heat the work surfaces indirectly by the use of a soldering iron or by the use of a soft gas flame, such as LPG or Air-Acetylene.
4. Do not overheat.
5. Melt off small amount of alloy and play the flame onto the solder until it flows into the joint and bonds.
6. Continue until joint is complete.
7. Remove all flux residues immediately after soldering by washing with plenty of cold water. It is advisable to protect your skin from contacting this flux. If contact is made with the skin, wash under cold water as soon as possible.

IDENTIFICATION:

Clear Plastic Jar, White Lid & White Label with Blue Print.

JOINING PROCESS:

Soldering only.

SOLDERING IRON bit temperature: 281°C.

TYPICAL ROD ANALYSIS:

Sn: 96.5% (Tin)

Ag: 3.5% (Silver)

TYPICAL PROPERTIES:

Tensile Strength

60 MPa

Density

7.5g/cm³

Approximate Melting Point

221°C

Electrical Conductivity

17% IACS

Packaging Data:

Rod/Wire Size (mm)	Pack Weight/Type	Part No
1.6	1.6mm x 14g Solid Wire coiled around a 14ml bottle of 965 Soldering Flux	321690

COMWELD ALUMINIUM FLUX



- ▲ For Fusion Welding Aluminium Alloys.
- ▲ Useable in either Powder or Paste Form.

MELTING POINT:	545°C
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Packaging Data:

Pack Weight/Type	Part No
250 gram Black Plastic Jar	321740

Identification:

White Powder in a Black Plastic Jar.

Description and Applications:

COMWELD Aluminium Flux is an all purpose flux for fusion welding sheet and cast aluminium. It eliminates the need for a number of different types of aluminium welding fluxes being stocked to handle different types of aluminium welding alloys. COMWELD Aluminium Flux is recommended for use with the following COMWELD Aluminium welding rods, AL1188 (Pure), AL4043 (5% Silicon) and AL5356 (5% Magnesium).

Procedure:

Apply flux sparingly to the cleaned surface of the joint in paste form, or by picking up a small quantity on the end of the heated filler rod. Never sprinkle flux over the job. The flux can be mixed with methylated spirits, water or alcohol to form a thin paste which can be applied to the rod or working area by means of a paint brush.

Flux Removal:

Dilute nitric acid dip followed by cold water rinse, then a hot water rinse or wire brush with hot water or steam.

COMWELD COPPER & BRASS FLUX



- ▲ For Universal Braze Welding Applications.
- ▲ Useable in either Powder or Paste Form.

MELTING POINT:	645°C
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Packaging Data:	
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Pack Weight/Type	Part No
250 gram Black Jar	321822

Identification:

Pink Powder in Black Plastic Jars or Drums.

Description and Applications:

COMWELD Copper and Brass Flux is specially developed for the braze welding of copper, brass and bronze and the brazing of copper, steel, etc. COMWELD Copper and Brass Flux is particularly suitable for use with COMWELD Manganese Bronze, Tobin Bronze, Nickel Bronze and Silicon Bronze rods.

Procedure:

The parts to be brazed must be clean with all traces of paint, oil and grease removed. Dip the heated end of the filler rod into flux as required. Flux may be mixed with water into a creamy paste and applied to rod and work before commencing. Wait until both edges of the joint begin to melt then apply the fluxed rod. Continue by melting each edge of the joint and the rod simultaneously.

Flux Removal:

Wire brush cup wheel (on an angle grinder) or wire brush with hot water, or dilute hydrochloric acid or nitric acid dip, followed by a water rinse.

COMWELD SILVER BRAZING FLUX No.2



- ▲ For Silver Brazing of Carbon Steel, Stainless Steels & Dissimilar Metals.
- ▲ Used in a Paste Form.

MELTING POINT:	450°C
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Packaging Data:

Pack Weight/Type	Part No
200 gram Black Jar	321840
500 gram Black Jar	321841
3.5kg White Plastic Jar	321843

Identification:

White Paste in either a Black / White Plastic Jar.

Description and Applications:

COMWELD Silver Brazing Flux No. 2 and Silver Brazing Alloys with a high silver content (42-50%) produce excellent joints on carbon steel, stainless steel, nickel alloys and copper and brass.

Dissimilar metals in the above groups can be easily brazed.

The flux is a good temperature indicator and will melt at the proper brazing temperature.

Procedure:

The parts to be brazed must be thoroughly clean with all traces of oil and grease removed. Apply to work and rod with a paint brush before commencing to braze. Adequate flux is essential for proper action.

Flux Removal:

Hot diluted caustic soda dip or wire brush with hot water or steam.



▲ For Silver Brazing of Steel, Nickel, Brass, Bronze, Copper, and Stainless Steels.

▲ Used in a Paste Form.

MELTING POINT: 485°C

Packaging Data:

Pack Weight/Type	Part No
200 gram Black Jar	321850
500 gram Black Jar	321851
3.5kg White Plastic Jar	321853

Identification:

White Paste in either a Black / White Plastic Jar.

Description and Applications:

COMWELD General Purpose Silver Brazing Flux is recommended for use with Cadmium bearing and Cadmium free silver brazing alloys with a low to medium silver content (2-40%). It is an excellent flux for medium to high temperature brazing and has been specially formulated to be used for induction brazing. COMWELD General Purpose Silver Brazing Flux and the above mentioned silver brazing alloys produce excellent joints on carbon steel, stainless steel, nickel alloys and copper and brass. The flux is a good temperature indicator and will melt at the proper brazing temperature.

Procedure:

The parts to be brazed must be thoroughly clean with all traces of oil and grease removed. Apply to work and rod with a paint brush before commencing to braze. Adequate flux is essential for proper action.

Flux Removal:

Hot diluted caustic soda dip or wire brush with hot water or steam.

COMWELD 965 SOLDERING FLUX

- ▲ For Use with all Comweld Soft Solders.
- ▲ Highest Quality Australian Made Flux.
- ▲ Used in a Liquid Form Only.

Packaging Data:

Pack Weight/Type	Part No
125 ml Bottle	321890
1 litre Bottle	321894

Identification:

Pink Liquid in Black Plastic Bottles and Drums.

Description and Applications:

COMWELD 965 Soldering Flux, when used in conjunction with COMWELD Soft Solders, enables excellent joints to be made on almost all metals and combinations of metals.

It is a very active flux and therefore, if used on copper, brass, bronze, etc. may be diluted if required in the ratio 1 part flux to 4 parts water.

Procedure:

COMWELD 965 is sold in handy squeeze-type bottles which enables the right amount of flux to be deposited when and where required.

Flux Removal:

Remove all flux residues immediately after soldering by washing with plenty of cold water. It is advisable to protect your skin from contacting this flux. If contact is made with the skin, wash under cold water as soon as possible.

COMWELD VAPAFLUX

- ▲ For Braze Welding of Steel.
- ▲ Used with Comweld Manganese & Nickel Bronze Rods.
- ▲ Used in a Liquid Form Only.

FLASH POINT (TRUE CLOSED CUP):	17°C
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Packaging Data:

Pack Volume/Type	Part No
10 litre Tin Plate Can	321885

Identification:

Clear Liquid in a Tin Plate Can.

Description and Applications:

COMWELD Vapaflux provides an effective and time saving method of applying flux when braze welding steel. It is intended to be applied as vapour in the flame itself (the flux in the flame) and will impart a high fluidity to the bronze when deposited. This method prevents loss of time in removing the rod from the work to dip for the flux, and saves the fuel gas and oxygen consumed while dipping for flux. It is particularly effective for production brazing and will cut production time and defects. One of the major advantages is the elimination of the costly after-cleaning which is usually necessary with ordinary powder flux use. It is recommended for use with COMWELD Manganese Bronze and COMWELD Nickel Bronze rods.

Procedure:

COMWELD Vapaflux has been specially formulated for best results when used with the COMWELD Vapaflux Dispenser which delivers the correct quantity from the blowpipe to the flame. It is not suitable for direct application.

Flux Removal:

Where the welds are to be chrome plated or coated with synthetic enamels, the flux residue should be removed prior to treatment. Quench the joint in water containing 5% phosphoric acid. This will prevent rusting. The usual method of wire brushing with warm water may be employed to clean the joint surface.

