

## Soldering Of Metals Flux Guide

Substrate	Comments	Flux to use	Solder to use
Copper	Easily soldered, sometimes necessary to clean the surface if the copper is tarnished	Fluxrite Paste, Powerflow Flux, Bakers Soldering Fluid, Black Band, TSC Paints, TSC 920, Alcho-Re Flux Paste	Any leaded or lead free solder alloys
Brass	Marginally more difficult to solder than copper the list of materials to use is the same	As above for copper	Any leaded or lead free solder alloys
Cast Iron	Difficult to solder due to graphite layer. Clean surface by shot-blasting	Black Band, TSC Tinning Compound	Any leaded or lead free soft solder alloys
Mild Steel	Readily solderable, provided that the surface is clean and rust free	Black Band, Fluxrite Paste, TSC Paints	Any leaded or lead free soft solder alloys
Stainless Steel	Stronger flux required than for mild steel, tough oxide layer to remove	TSC A8 Flux, S26 Liquid Flux	Grade K – Sn60 PB 40, 5S
Aluminium	Can be soldered but a strong flux is required	Aluflux	Alca P with Flux, Fryal friction solders without flux
Zinc	Moderately difficult to solder. A8 works but care needed as it reacts quickly with the substrate (less suitable for galvanised steel)	A8 flux, S26 Flux	Most solder alloys
Nickel	Can be soldered when the surface is fresh. De-passivate with diluted hydrochloric acid	S26	Most solder alloys
Beryllium Copper	Only mild fluxes required, if the surface is clean	Alcho-Re Fluxes (Paste), TSC Paints	Any leaded or lead free solder alloys
Chromel-Alumel (Thermocouple wire)	Active Flux required	S26 Fluxes	Any leaded or lead free solder alloys
Chromium	Similar to stainless steel (tough oxide layer to break through)	A8	Any leaded or lead free solder alloys
Silver	Easily solderable. Alloys containing silver tend to be used	EasyFlo Powder	Choose a silver bearing soft solder alloy
Gold	Too easy to solder, reacting quickly with tin – brittle	Alcho-Re Flux	Most soft solder alloys

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