Capillary Fittings











CONTENTS

	_
Introduction	1
Capillary Fittings	2
Making a Capillary Joint	3
Capillary Fittings	4
Copper Tubing for Domestic Plumbing	19
Why Choose Cobra	21

Capillary Fittings

Cobra introduced Capillary (or Solder) fittings to the South African market in 1972. These fittings were, at the time, imported and did not have much impact on the traditional compression fittings and copper tube market. However, with the introduction of hard drawn copper tubing, this system has gained in popularity, particularly in those areas where galvanised piping has been used traditionally. Hard drawn copper tubing, when used with Cobra "Copcal" fittings, is comparable in cost to conventional systems. The simple joining technique is a readily acquired skill and can be mastered with little difficulty. Users of Cobra Capillary fittings find this plumbing method much faster than any other.

The introduction of a hard drawn copper tube is less expensive than the widely used domestic copper tube, making it the first choice for copper tube installation, a most economic proposition. The hard drawn copper tube when used with Cobra fittings, is comparable in cost with conventional systems.

The savings in installation time, the competitive price of hard drawn copper tube and Cobra Capillary fittings, as well as the undeniable longevity of copper, make the selection of this system sound economic sense.

NOTE: Fittings with a "D-" prefix are manufactured from Dezincification Resistant Brass.



 Copper tube can be cut with a hacksaw: a fine tooth blade is best, or use a roller tube cutter; Do not put too much pressure on the cutting disk.



2. Clean the ends of the tube with a file or de-burring tool, inside and outside.



3. Apply flux to the outside of tube and inside cup of fitting so that the surfaces to be joined are completely covered. Use flux carefully and sparingly.



4. Bend end of solder wire over- about the length of the size of the fitting ie. 15mm solder for 15mm fittings, etc. Over 50mm diameter, approximately three times the diameter of the fitting is required.



5. Apply flame to the fitting to heat the tube and the top of the fitting until soldermelts when placed at the joint, and then pass the flame towards the centre of the fitting until solder is absorbed and joint completed.



6. Remove excess solder with a small brush (or a damp cloth) while the fitting cools.

600M



15mm, 22mm, 28mm, 35mm, 42mm, 54mm.



Straight Slip Coupler. Copper to Copper connections.

> 15mm, 22mm, 28mm, 35mm, 42mm, 54mm.



*Component Code is differentiated by the inclusion of size ie. 601M-15 = 15mm Straight Coupler



601M*



Reducing Straight Coupler. Copper to Copper connections.

> 22mm x 15mm, 28mm x 22mm, 35mm x 28mm, 42mm x 35mm, 54mm x 42mm.

*Component Code is differentiated by the inclusion of size ie. 601M-22x15 = 22mm x 15mm Reducing Straight Coupler

601M-TC

Straight Tap Connector. Copper to Female Iron connections.

> 15mm x ½"; 15mm x ¾"; 22mm x ¾".



601-2M

Reducing Straight Coupler. Copper to Copper connections. (To reduce a fitting).



22mm x 15mm: 28mm x 15mm: 28mm x 22mm: 35mm x 15mm: 35mm x 22mm: 35mm x 28mm: 42mm x 15mm; 42mm x 22mm: 42mm x 28mm: 42mm x 35mm; 54mm x 15mm: 54mm x 22mm; 54mm x 28mm: 54mm x 35mm: 54mm x 42mm: 67mm x 35mm: 67mm x 54mm: 76mm x 35mm; 76mm x 54mm: 76mm x 67mm; 108mm x 76mm.

D603

Straight Female Coupler. Copper to Female Iron connections.

15mm x ½"; 22mm x ¾"; 28mm x 1"; 35mm x 1¼"; 42mm x 1½"; 54mm x 2"; 76mm x 3"; 108mm x 4"; 15mm x ¾".

D603M

Reducing Straight Female Coupler. Copper to Female Iron connections.

15mm x ¾".



D604M

Reducing Straight Male Coupler. Copper to Male Iron connections.

15mm x ½"; 22mm x ¾"; 28mm x 1"; 35mm x 1¼"; 42mm x 1½"; 54mm x 2"; 76mm x 3"; 108mm x 4".



D604M-15X3/4

Reducing Straight Male Coupler. Copper to Male Iron connections.

15mm x ¾".



606M



15mm; 22mm; 28mm; 35mm; 42mm; 54mm; 76mm; 108mm.



607M*

Elbow 90°. Copper to Copper connections.

> 15mm; 22mm; 28mm; 35mm; 42mm; 54mm; 67mm; 76mm; 108mm.



*Component Code is differentiated by the inclusion of size ie. 607M-15 = 15mm Elbow 90°

607M*

Reducing Elbow 90°. Copper to Copper connections.

22mm x 15mm.



*Component Code is differentiated by the inclusion of size ie. 607M-22x15 = 22mm x 15mm Reducing Elbow 90°

607M-TC

Bent Tap Connector. Copper to Female Iron connections.

15mm x ½"; 22mm x ¾".



D707-3M

Reducing Female Elbow 90°. Copper to Female Iron connections.

15mm x ½"; 22mm x ¾".



D707-3M



Female Elbow 90°. Copper to Female Iron connections.

> 28mm x 1"; 35mm x 1¼"; 42mm x 1½"; 54mm x 2".

D707-3-5M

Wallplate Elbow 90°. Copper to Female Iron connections.

15mm x ½"; 22mm x ¾".



Male Elbow 90°. Copper to Male Iron connections.

> 15mm x ½"; 22mm x ¾"; 28mm x 1"; 35mm x 1¼"; 42mm x 1½"; 54mm x 2".



611M*

Reducing Tee. All ends Copper. Run equally reduced.

15mm x 15mm x 22mm.



*Component Code is differentiated by the inclusion of size ie. 611M-15x15x22 = 15mm x 15mm x 22mm Reducing Tee

611M

Equal Tee. All ends Copper.

> 15mm; 22mm; 28mm; 35mm; 42mm; 54mm; 67mm; 76mm; 108mm.



611M*

Reducing Tee. All ends Copper. Branch reduced.

22mm x 22mm x 15mm; 28mm x 28mm x 15mm; 28mm x 28mm x 22mm; 35mm x 35mm x 15mm; 35mm x 35mm x 22mm; 35mm x 35mm x 28mm; 42mm x 42mm x 15mm; 42mm x 42mm x 28mm; 42mm x 42mm x 28mm; 42mm x 42mm x 35mm; 54mm x 54mm x 22mm; 54mm x 54mm x 28mm; 54mm x 54mm x 35mm; 54mm x 76mm x 35mm; 76mm x 76mm x 54mm; 76mm x 76mm x 54mm; 108mm x 108mm x 54mm 108mm x 108mm x 54mm



*Component Code is differentiated by the inclusion of size ie. 611M-22x22x15 = 22mm x 22mm x 15mm Reducing Tee

611M*

Reducing Tee. All ends Copper. One end on Run reduced.

> 22mm x 15mm x 22mm; 28mm x 22mm x 28mm.



*Component Code is differentiated by the inclusion of size ie. 611M-22x15x22 = 22mm x 15mm x 22mm Reducing Tee

611M*



22mm x 15mm x 15mm; 28mm x 22mm x 22mm.



*Component Code is differentiated by the inclusion of size ie. 611M-22x15x15 = 22mm x 15mm x 15mm Reducing Tee

D712M

Reducing Tee. Copper to Copper to Female Iron connections.

15mm x ½"; 22mm x ¾".

617M

Tube End Cap.

15mm; 22mm; 28mm; 35mm; 42mm; 54mm.





D733M

Union Coupler. Copper to Copper connections.

15mm; 22mm.



733-3M

Union Coupler. Copper to Female Iron connections.

15mm x ½".



D733-4M

Union Coupler. Copper to Male Iron connections.

15mm x ½"; 22mm x ¾".



Full Crossover. Copper to Copper connections.

15mm; 22mm.



COPPER TUBING FOR DOMESTIC PLUMBING

Tubes for Domestic Plumbing Services

Class 2 (Medium)

Nominal Size of Tube (mm)	Outside Diameter		Wall	Theoretical	Maximum Working
	Max (mm)	Min (mm)	Thickness Class 2 Med. (mm)	Mass kg/m Class 2	Pressure Mpa Class 2 Half Hard
15	15,045	14,955	1,0	0,392	7,54
22	22,055	21,945	1,0	0,588	5,00
28	28,055	27,945	1,2	0,900	4,72
35	35,070	34,930	1,5	1,407	4,72
42	42,070	41,930	1,5	1,701	3,81
54	54,070	53,930	2,0	2,912	4,06
76	76,170	76,030	2,0	4,150	2,85
108	108,070	107,930	2,5	7,385	2,50

Class 1 (Light)

Nominal Outside Size of Tube Max (mm) (mm)	iameter Wall		Theoretical	Maximum Working	
	Max (mm)	Min (mm)	Thickness Class 1 Med. (mm)	Mass kg/m Class 1	Pressure Mpa Class 1 Half Hard
15	15,045	14,955	0,70	0,280	5,16
22	22,055	21,945	0,90	0,532	4,50
28	28,055	27,945	0,90	0,683	3,50
35	35,070	34,930	1,20	1,136	3,74
42	42,070	41,930	1,20	1,371	3,03
54	54,070	53,930	1,20	1,774	2,40
76	76,170	76,030	1,50	3,133	2,12
108	108,070	107,930	1,50	4,473	1,49

COPPER TUBING FOR DOMESTIC PLUMBING

Class 0 (Light)

Nominal Size of Tube (mm)	Outside Diameter		Wall	Theoretical	Maximum Working
	Max (mm)	Min (mm)	Thickness Class 0 Med. (mm)	Mass kg/m Class 0	Pressure Mpa Class 0 Half Hard
15	15,045	14,955	0,60	0,242	4,93
22	22,055	21,945	0,75	0,447	4,18
28	28,055	27,945	0,80	0,610	3,59
35	35,070	34,930	1,20	1,137	4,20
42	42,070	41,930	1,20	1,372	3,48
54	54,070	53,930	1,20	1,775	2,69
76	76,170	76,030	1,50	3,133	2,38
108	108,070	107,930	1,50	4,473	1,67

Superior thread engagement and number of turns.

No Squeak - torque up with confidence.

Supported by award winning **Cobra Assist** nationwide service team.

4 decades of proven track-record.

NOTES



NOTES



20 Wright Street, Factoria, Krugersdorp, 1739 South Africa

National After Sales Service Number: +27 (0) 861 21 21 21



ONLINE PLATFORMS

Visit our websites and find an office/ dealer/distributor closest to you.

Websites:

https://cobra.lixil.co.za/ http://www.lixil.co.za/

Social Media:



- @Cobrataps



- @CobraWatertechSA



PART OF LIXIL