

# Spartan Superior Brass Shires Compression Fittings



# SPARTAN



For Further Information Call Your Plumbing & Gas Equipment Specialists

Aqualine Products Limited, 7 Winston Place, Henderson, Auckland

Phone: (09) 48372725 Fax: (0800) 920700 Email: [sales@spartan.co.nz](mailto:sales@spartan.co.nz)

# SHIRES

## Compression Fittings



*Easy installation*

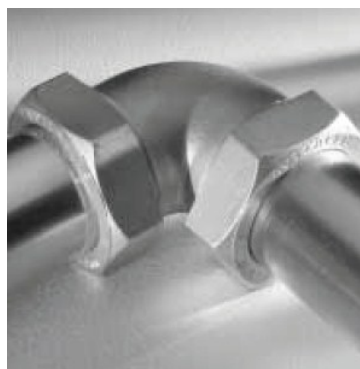


### Compression Fittings

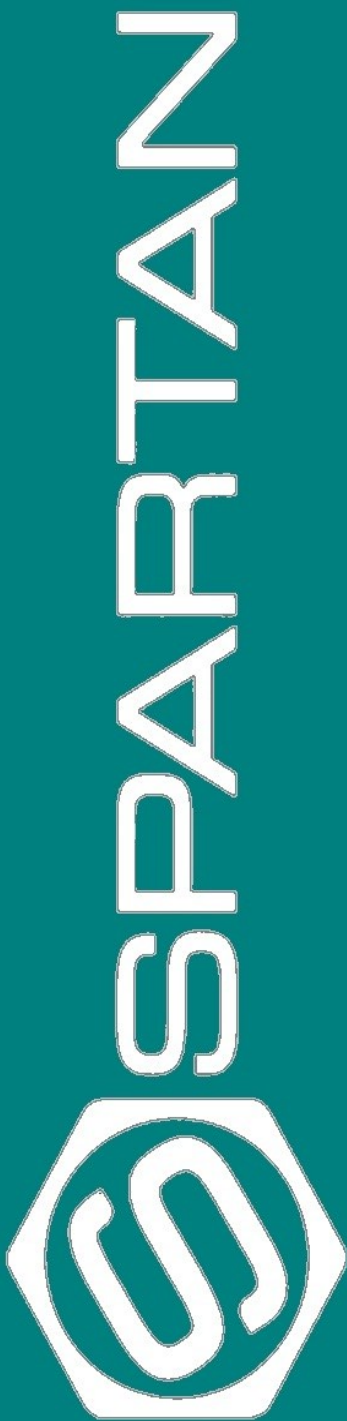
Compression fittings have been manufactured throughout Europe since the early 1920's. Manipulative compression fitting, the first non-manipulative compression fitting was Revolutionary for it's time, the fitting allowed light gauge copper tube to be joined without manipulation of the tube end. As a result sale of compression fittings prospered throughout the 1920's, even today compression fittings sales continue to grow and prosper into the 21st Century.



The Shires is a range of fittings, primarily for the use in above and below ground water, gas and central heating services, enabling the light gauge copper, stainless steel tubes to be joined without the need for solder, a blowtorch or breading. The joint consists of a body with a built-in stop for receiving the tube, a compression ring corresponding in the size to the exterior diameter of the tube and a compression nut. The Shires joints rely on the mechanical principle of jointing: tightening the coupling nut compresses the compression ring onto the tube to form a strong metal to metal connection. Because little preparation of the tube is required prior to assembly, and spanners are the only tools needed to make reliable joints, the Shires compression fittings are ideal for use where it would be damaging or dangerous to use a naked flame or where the joint may need to be broken or remade without adversely affecting their performance. While recognising that the current European programme of standard harmonisation may effect the standards relevant to the Shires range. Indeed, BS864 the standard for capillary and compression fittings of copper and copper alloy, has been replaced by EN1254. The Shires compression fittings complies with all aspects of the European Standard prEN1254. These Shires fittings meet British, European and International standards:



**BS864: Part 2—EN 1254 Part 2,  
BS 21, BS 2779 /ISO 228/1,**



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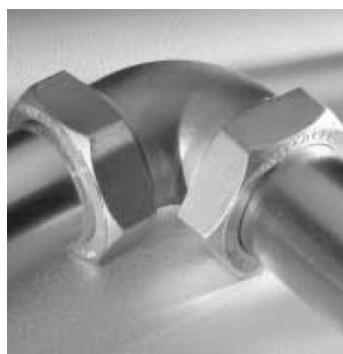
### Shires Compression Fittings

Shires fittings are a range of non-manipulative (Type A) brass compression fitting specifically designed for joining light gauge copper tube. The range is suitable for use on closed circuit central heating systems, in above ground hot and cold water services, on compressed air lines and other fluid and gas services. Shires fittings have a one piece body, compression rings and nut, all of which are manufactured in Dezincification Resistant Brass (Functional Performance to: BS EN1254-2 & ISO6509-1995). A Type A Compression Fitting, or non-manipulative fittings enables the installer to make a compression joint without carrying out any work on the tube ends other than ensuring they are clean and cut square.



### Standards:

Shires Fittings fully comply with all aspects of the European Standard EN1254-2:1998. This standard covers specification for copper and copper alloy fittings with compression ends for copper tube. As described in EN1254-2 compression fittings can be fitted to Copper and Copper alloys—Seamless, round copper tubes for water and gas in sanitary and heating applications.



Try These Lubricants with your fitting Installations.



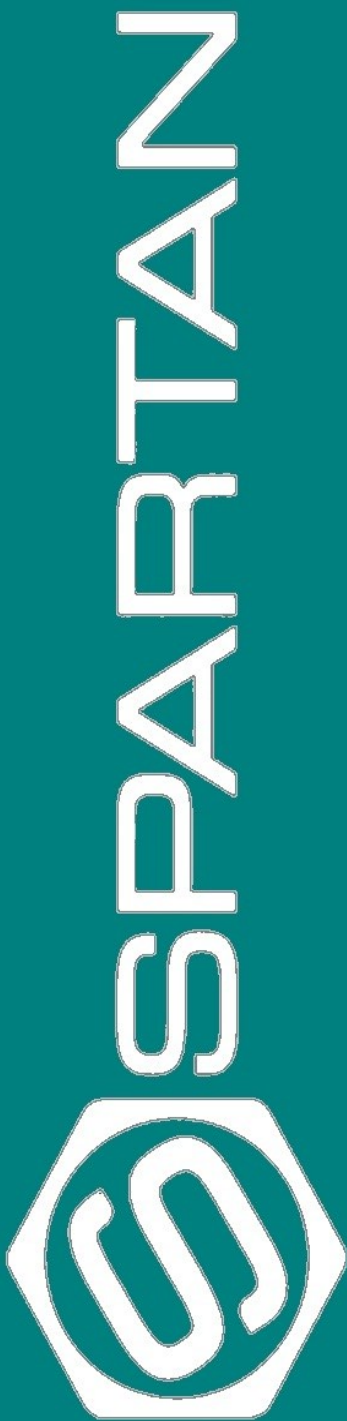
#### Uni-White Pipe Sealant

UniWhite is an easily applied non-toxic pipe jointing compound. Uniwhite jointing compound used in conjunction with hemp/flax is ideal for sealing of threaded pipe joints. It acts as a lubricant to enable pipe threads to be screwed tight Uniwhite never hardens or leaks Permits future dismantling of the joints. Temperature: 140C/8bar Conforms to BS6596



#### Uni-Gas Universal Jointing Compound

Ideal for the sealing of threaded joints for use with gas, potable water and hot water,



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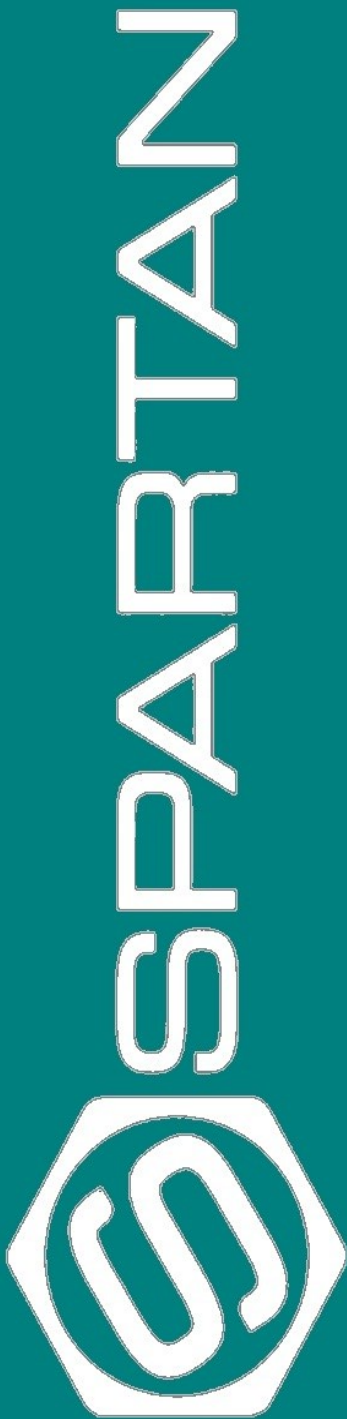
# SHIRES

## Compression Fittings



### Assembly guide and tips:

- 1: Ensure that tube is free of surface damage, particularly flats and score marks which could interfere with the production of satisfactory joints.
- 2: Ensure that pipe work is adequately supported during and after installation.
- 3: The pipe work should be clipped as close as possible to fittings, particularly where long runs are involved.
- 4: Use spanners of the correct size and of adequate length. More torque is required to tighten up compression fittings with tube and it is necessary to ensure that adjoining fittings are not disturbed as a result of this higher tightening force.
- 5: You must apply a lubricant to the compression ring e.g. Uniwhite or Unigas: this will reduce the assembly torque significantly and minimise the risk of damage to the fittings. Lubrication of the threads is essential especially on sizes above 25mm.
- 6: If a sealant is required use a suitable PTFE based compound or PTFE tape.
- 7: Ensure that the jointing surfaces and threads remain clean and free from grit.
- 8: If after assembling the joint in accordance with the above instructions, a slight weep is experienced – as may occasionally happen – it will be readily corrected by the application of a smear of an approved compound to the sealing



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### Recommended Assembly Guide:

#### Step 1:

Remove the compression nut and compression ring and put the nut and then the ring on the copper tube. Insert the tube end up to the tube stop inside the fitting, ensure that the compression ring seats centrally. Slide both the ring and nut down to the fitting body.

#### Step 2:

Apply lubricant to compression fitting ring then tighten the nut by finger and then by spanner until the tube can not be rotated in the fitting by hand. Always use a high quality open ended or adjustable spanner.

#### Step 3:

Tighten the nut a further 1/3 to 2/3 of a turn for normal joint making: If there is any sight of leakage, particularly if the joint has been disturbed after assembly, the nut may be tightened further as necessary. However, over tightening the compression nut will not result in a stronger joint it may lead to problems in service.

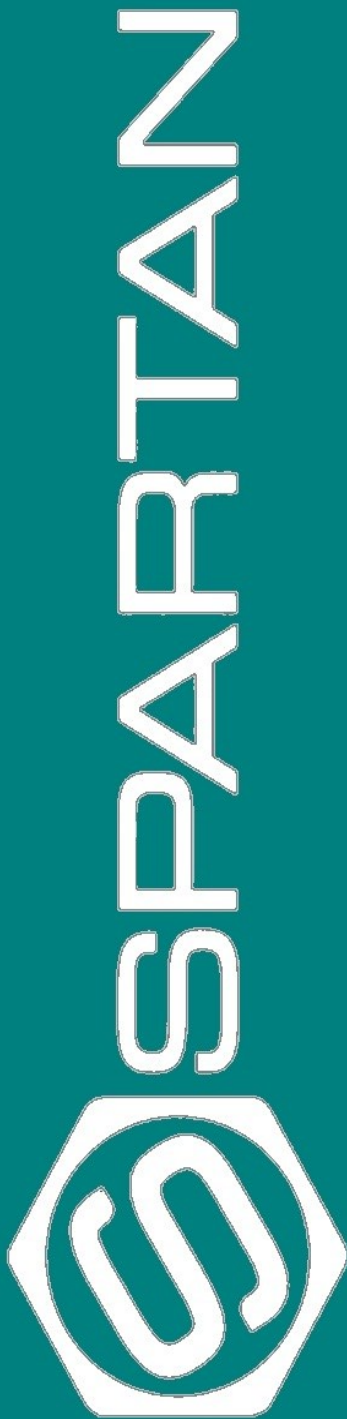
#### Breaking and Remaking Compression Joint:

Installed fittings can be dismantled and remade without the loss of joint efficiency provided the components are kept clean and undamaged. Compression fittings can replace union fittings where a infrequent disconnection facility is required. Sealing compound is normally needed to remake a joint but care should be taken not to trap particles and foreign matter when reassembling. When re-tightening the coupling nut use just enough torque to "nip" the ring.

#### Do not over tighten.

#### Pipeline Support:

Pipelines should always be assembled so that the joints are under neutral or compressive stress. Clipping to support the assembled pipeline is essential to the longevity of the compression fitting and pipe work. There is a wide range of pipe clips and bracket available for sale. Well clipped pipe work can protect installations against accidental



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## Compression Fittings



### Shires Working Pressures

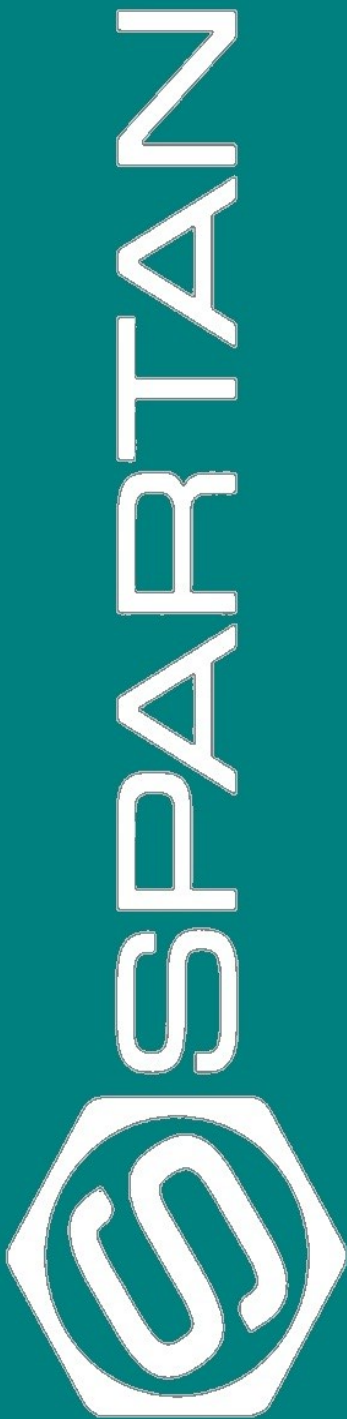
#### Working pressures and temperatures:

Shires brass compression fittings are manufactured to EN1254 Part 2. This standard specifies the maximum permissible working pressure and temperatures for fittings assemblies with close tolerance hard and half hard copper tube to EN1057.

However EN1254 Part 2 also states that, for certain designs and sizes of compression fittings, the pressures and temperatures can be exceeded. For the sake of clarity and caution, the table below lists our own recommendations.

Maximum permissible non-shock working pressure for Shires fittings, when installed correctly assembled. as-

Pipelines for use with	Tube Sizes mm	Metal Temperatures not exceeding C°	Max working pressure Bar	Max working pressure Psi
Water & Light Minerals	6,8 and 10	30	70	1015
	6,8 and 10	90	40	580
	6,8 and 10	120	25	362
	12—28	30	20	290
	12—28	90	10	145
	12—28	120	7	101
	32—54	30	16	232
Dry Steam Under Steady condition	32—54	90	10	145
	32—54	120	7	101
	6—54	120	1	14.5
Compressed Air LPG, Natural Gases (Not Cast Fittings)	6—28	30	7	101
	6,8 and 10	30	4.5	65
	12—28	30	1	14.5



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## Compression Fittings

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### Frequently Asked Questions

**Question:**

Can Shires Compression Fittings be used on gas installations?

**Answer:**

Yes they can, Shires Fittings are manufactured to the European Standard EN1254-2. This standard covers Copper and Copper Alloys—Plumbing Fittings—Part 2: Fittings with compression ends for use with copper tubes. The standard states: The fittings described “COMPRESSION FITTINGS” in EN1242-2 are for use in conjunction with copper tube specified in EN1057: 1996 Copper and Copper Alloys—Seamless, round copper tube for WATER and GAS in sanitary and heating applications.

**Question:**

Can compression fittings be used in gas installations?

**Answer:**

Yes they can The New Zealand Standard NZS 5261: 2003 Item 2.2.1.7 Jointing c. Compression fittings and flare fittings shall be used only where they are readily accessible for the nut to be tightened to make a gastight joint.

**Item 2.3.3 Prohibited types of joints and fittings**

The following fittings or jointing systems shall not be used for joints in gas pipe work: Plain nipples e.g. Running nipples with parallel threads:

- b. Crox joints:
- c. Compression fittings with non-metallic olives:
- d. Compression fittings with metallic olives if not approved by the manufacture for use with gas:
- e. Long Screw Connectors:
- f. Internally threaded PVC-U fittings unless manufactured with reinforcing metal-band.

**Question:**

Does the manufacturer of Shires fittings approve their fittings to be used in gas installations?

**Answer:**

The manufacturer, confirms that the Shires Compression Fittings are manufactured to the European Standard EN1242-2.

That standard states: The fittings described “COMPRESSION FITTINGS” in EN1242-2 are for use in conjunction with copper tube specified in EN1057: 1996 Copper and Copper Alloys—Seamless, round copper tube for WATER and GAS in sanitary and heating applications.

**Question:**

Should I use a lubricant on the compression joint while tightening up the compression nut?

**Answer:**

Yes you should, the application of a lubricant to the thread (e.g. Uniwhite or Unigas) reduce the assembly torque significantly and minimise the risk of damage to the fittings.

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## Compression Fittings

**Copper Tube Made Easy  
Gas & Water Installations  
No More Flaring Tools  
No More Crox Tools**

### Application:

The Shires compression fittings are manufactured by Spartan Engineering and are made in accordance with the specification EN1254-2 and EN 1057. The Shires compression joint also complies with Australian Gas Approval numbers as listed:

AG501 For Domestic And Commercial Installations.

AG601 For Domestic Installations.

**The Shires Compression Fittings are designed for use on:  
New Zealand domestic copper tube.**



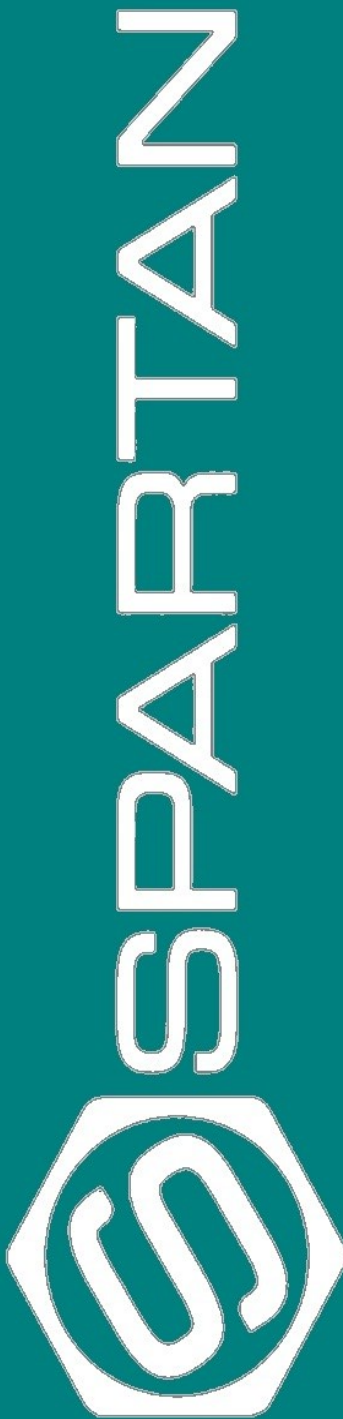
SE15	15mm CxC
SE20	20mm CxC
SE25	25mm CxC
SE32	32mm CxC
SE40	40mm CxC
SE50	50mm CxC

### Shires Compression Elbow



SEF15	Elbow 15mm FlxC
SEF20	Elbow 20mm FlxC
SEF25	Elbow 25mm FlxC

### Shires Compression Female Elbow



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### Shires Compression Male Elbow



SEM15	Elbow 15mm MlxC
SEM20	Elbow 20mm MlxC
SEM25	Elbow 25mm MlxC
SEM32	Elbow 32mm MlxC
SEM40	Elbow 40mm MlxC
SEM50	Elbow 50mm MlxC

### Shires Compression Nut

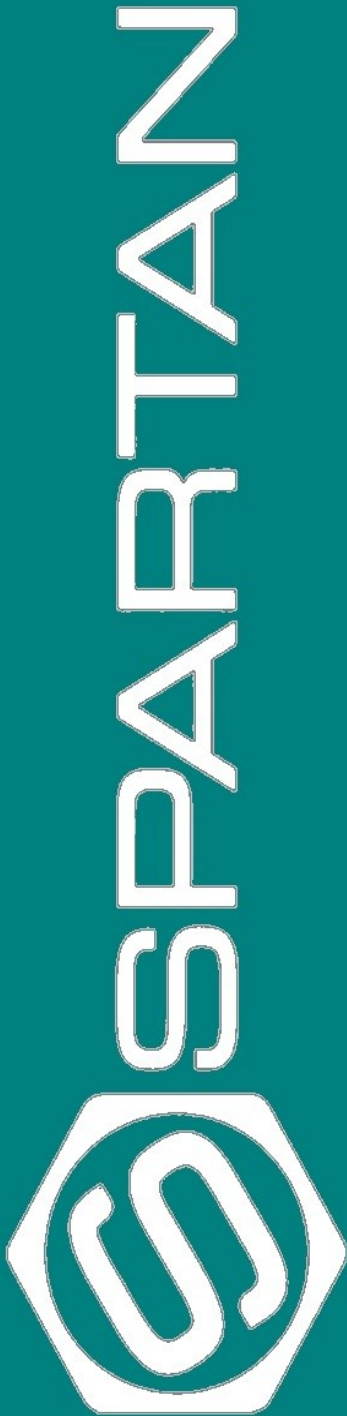


SNT15	15mm
SNT20	20mm
SNT25	25mm
SNT32	32mm
SNT40	40mm
SNT50	50mm

### Shires Compression Olive



SO15	15mm
SO20	20mm
SO25	25mm
SO32	32mm
SO40	40mm
SO50	50mm

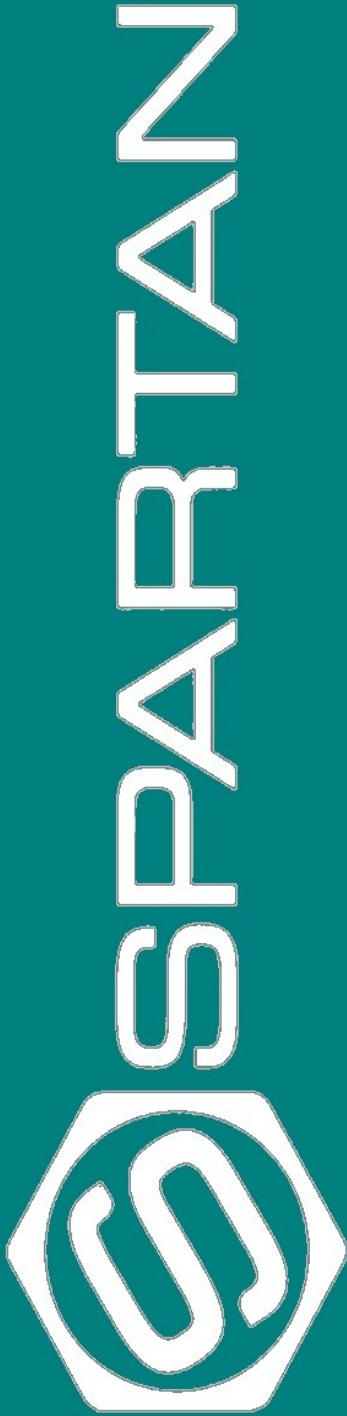


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# SHIRES Compression Fittings



The Shires Compression Fittings are designed for use on:  
New Zealand domestic copper tube.

## Shires Compression Coupling



SSC15	Straight Coupler 15mm CxC
SSC20	Straight Coupler 20mm CxC
SSC25	Straight Coupler 25mm CxC
SSC32	Straight Coupler 32mm CxC
SSC40	Straight Coupler 40mm CxC
SSC50	Straight Coupler 50mm CxC
SSR2015	Reducing Couplers 20x15mm CxC

## Shires Compression Female Coupling



SFC15	Straight Coupler 15mm FlxC
SFC20	Straight Coupler 20mm FlxC
SFC25	Straight Coupler 25mm FlxC
SFC32	Straight Coupler 32mm FlxC
SFC40	Straight Coupler 40mm FlxC
SFC50	Straight Coupler 50mm FlxC
SFR2015	Straight Coupler 20x15mm
SFR2520	Straight Coupler 25x20mm

## Shires Compression Stop End



SEZ15	15mm
SEZ20	20mm

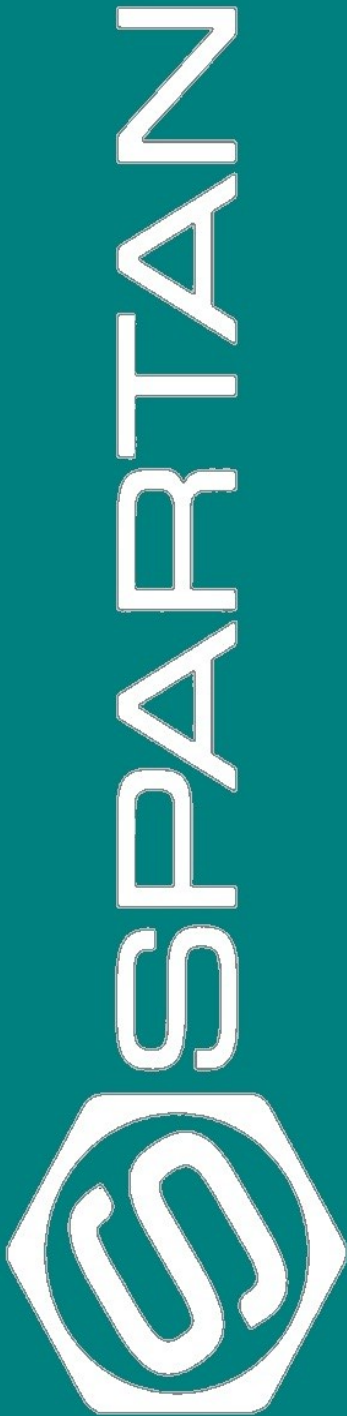
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## Compression Fittings



### Shires Compression Male Coupling



SMC15	Straight Coupler 15mm MlxC
SMC20	Straight Coupler 20mm MlxC
SMC25	Straight Coupler 25mm MlxC
SMC32	Straight Coupler 32mm MlxC
SMC40	Straight Coupler 40mm MlxC
SMC50	Straight Coupler 50mm MlxC
SMR2015	Reducing Couplers 20x15mm
SMR2520	Reducing Couplers 25x20mm

### Shires Compression Tee



STM15	Tee 15mm CxCxC
STM20	Tee 20mm CxCxC
STM25	Tee 25mm CxCxC
STM32	Tee 32mm CxCxC
STM40	Tee 40mm CxCxC
STM50	Tee 50mm CxCxC
STR201520	Tee 20x15x20mm CxCxC
STR202015	Tee 20x20x15mm CxCxC
STR252020	Tee 25x20x20mm CxCxC
STR252025	Tee 25x20x25mm CxCxC
STR252515	Tee 25x25x15mm CxCxC
STR252515	Tee 25x25x15mm CxCxC

### Shires Compression Swivel Elbow



SSE15	15mm
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