

The Radiall Type 43 coaxial connector range

The Radiall range of Type 43 series connectors is fully approved (where applicable) to BT (British Telecom) standards as well as to British Standard BS9210 F0022.

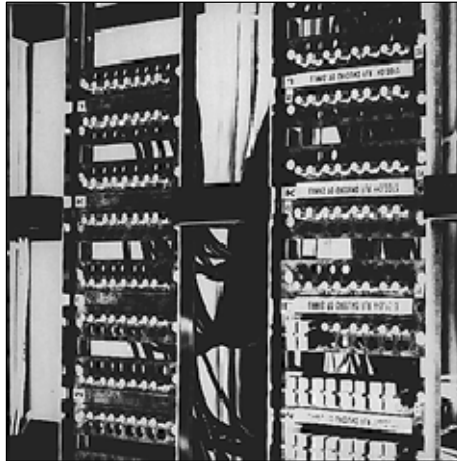
The coaxial connector ranges featured in this catalogue include both the standard (12.7mm), high density (10.0mm) and ultra high density (9.00mm) versions of Type 43 Digital Distribution Frame (DDF) plugs, sockets and U-links, as well as ancilliary products such as SMB, SMZ, BNC connectors and adaptors.

Typical product applications include, telecommunications switching equip-

ment including multiplexers, gateway and system/network monitoring equipment.

A wide range of additional interconnection products are also featured, which are designed to support all types of network installations requiring high quality voice and video transmissions.

Details of the complete range of Type 43 application tooling to allow fast and efficient on site termination of all products is also covered along with detailed connector termination and assembly instructions.



Type 43 series - Features and benefits

Proven design

Where applicable the Type 43 product range is approved to all current BT specifications, as well as being the first choice for many other new or existing analogue or digital telecommunication systems e.g. land based, mobile, PCN and GSM networks.

Low cost

Low installation cost due to high quality, proven crimp centre contact design.

High performance

Excellent VSWR at rated frequencies up to 3 GHz, typical values : *Straight style connectors* : max. 1.20
Right angle style connectors : max. 1.25.

Reliable

Long life design, incorporating special locking feature which prevents accidental disconnection.

Wide choice

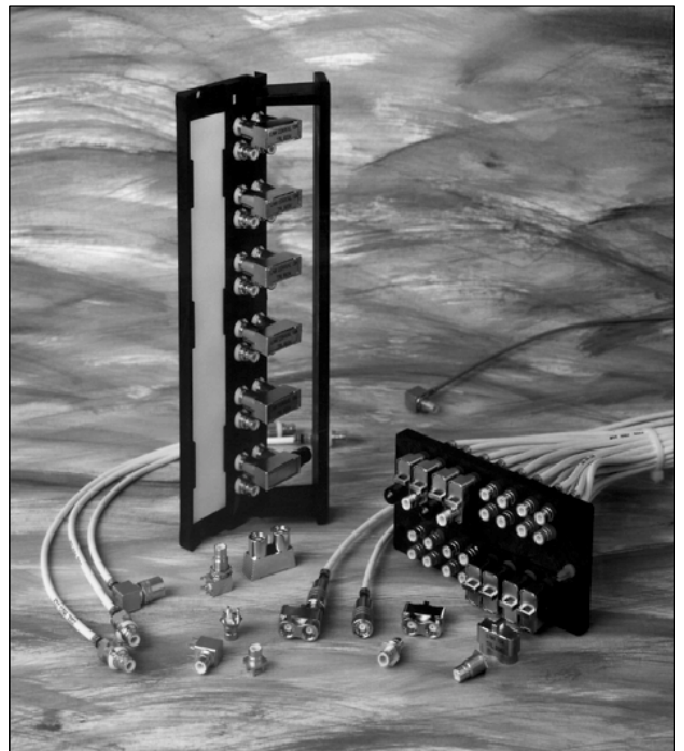
Wide product range suitable for fixed DDF, cable mounted and system test applications.

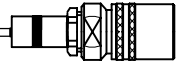
Fast termination

Single piece body styles allow reliable, easy operator assembly in varied on-site conditions, full application tooling available.

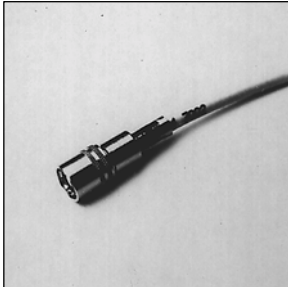
Worldwide supply

All products available through Radiall's worldwide network of subsidiary offices and sales agents.





Standard Type 43 series Straight cable connectors



The complete range of standard Type 43, 75 ohm series connectors shown is, where applicable, fully approved to British Standard – BS9210 F0022.

The Type 43 interconnect system provides front or rear jumpered cable management solutions for Digital Distribution Frames (DDF) which meet the requirements of traditional telecommunication network operators.

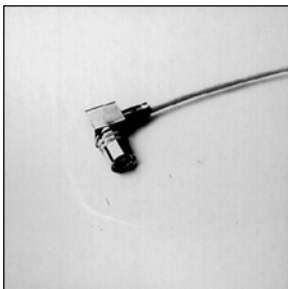
Precision manufactured components with selective gold plating ensure both high quality and high performance from an industry proven coaxial connector system.

As part of the Transradio commitment to ongoing development of the Type 43 connector system a range of single piece Type 43 plug (GTIS) and socket (FS) connectors are featured in this catalogue.

These connectors feature main bodies which are of single piece construction which allow quick and simple cable termination.

The range featured includes a wide selection of connector body styles and is designed to suit all standard telecom cable types as well as RG179 and RD179 cable types.

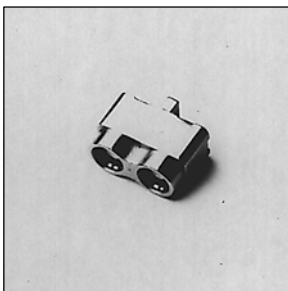
Right Angle Cable Mount Sockets



Type 43 series, right angle, 75 ohm sockets are available for use with all designated telecom cable types as well as RG179 cables.

Each socket features the simple latching mechanism which ensures against accidental disconnection by a pull on the cable or connector body.

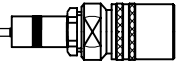
U - links



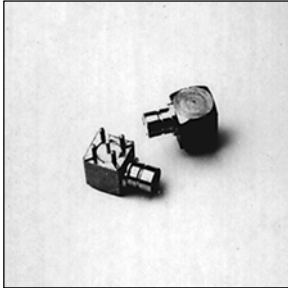
The Type 43 standard U-link is designed to link adjacent pairs of connectors horizontally or vertically on the DDF mounting block.

The U-link contacts are on 12.7mm centres and are selectively gold plated for optimum performance.

To allow easy testing or continuous circuit monitoring the U-link with test port is also available (signal level -30dB).



PCB mount plugs



Printed circuit board mounting Type 43 plugs are available in both straight and right angle variants.

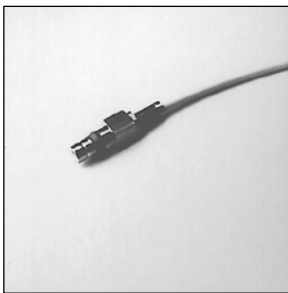
Contacts are selectively plated for high reliability and performance. These Type 43 plugs are compatible with standard HDC and UHDC derivative sockets.

The Type 43 straight mount PCB plug is also available in press-fit form. This product is available with compliant solderless pins for fast and reliable termination to the printed circuit board.

A complete range of press-fit termination tooling is available for both insertion and repair to support this product application.

HDC Type 43 series

Coaxial connectors



The Type 43 HDC derivative connector range is designed to suit Digital Distribution Frame (DDF) telecommunication applications.

The Type 43 HDC interconnect system provides a rear jumpered cable management solution which meets the requirements of not just traditional telecom operators but also that of CATV and mobile telecommunications networks.

Precision machined components with selective gold plating ensure both high quality and high performance from a proven coaxial connector system.

The Type 43 HDC series is fully intermateable with type 43 "standard" series connectors.

The single piece HDC DDF plug (HDC GTIS) provides fast "on site" termination and is easily fitted into the DDF mounting block by means of a simple latching grommet.

The single piece HDC Type 43 socket (HDC FS) is available in straight cable mounted versions.

A simple latching sleeve mechanism (fitted to the socket) ensures the socket cannot be accidentally disengaged from the plug when mated.

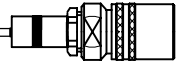
The socket connector is of single piece construction and is easily terminated using the application tooling as specified.

U - links

The Type 43 HDC "U" link is designed to link adjacent pairs of connectors horizontally or vertically on the DDF mounting block.

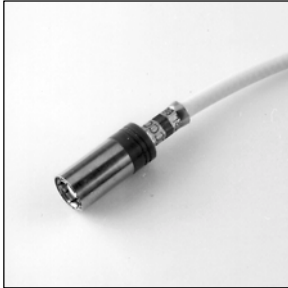
The "U" link contacts are on 10mm centres and are selectively gold plated for optimum performance.

To allow easy testing or continuous circuit monitoring a U-link with test port is also available (signal level -30dB).



UHDC Type 43 series

Coaxial connectors



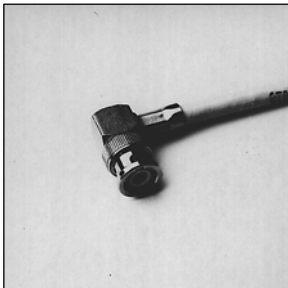
UHDC series is a system designed for a 9 mm mounting pitch on the digital distribution frame and its application is for small condensed or mobile switching installations.

The product range consists of 4 connector styles

- 1) Straight female crimp/crimp latching socket cable mounting for TZC or BT3002 cable (3.6/75 double screen) UHDC S43/5 FS with a new rear release latching mechanism.
- 2) Straight male crimp/crimp DDF plug for same cable as (1) UHDC P43/5GTIS.
- 3) Link UHDC 43/9A.
- 4) Link UHDC 43/9 B (with -30dB test access).

Additional telecommunications - support Interconnect products

BNC series connectors for telecom cables & applications (Type 31 series)



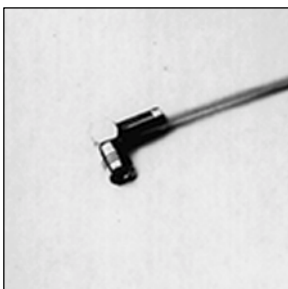
This range of full crimp termination BNC plugs and jacks is designed to fit standard telecommunications cables of 75 ohm impedance.

These high quality connectors feature nickel plated, machined bodies and coupling nuts and gold plated centre contacts.

All the telecom BNC connectors featured in this catalogue can be easily crimp terminated using the hexagonal cavity die sets contained in the Radiall Type 43 application tool kit.

SMB series connectors for switch/multiplex applications

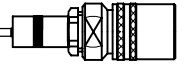
SMB series connectors for telecom cables & applications (Type 31 series)



Standard SMB series connectors are available to allow interfacing with various other manufacturers telecommunications equipment/systems.

The SMB series plug connectors are of right angle and straight designs and both feature a "push-pull" snap on coupling mechanism and gold plated contacts for high performance and reliability.

This family of SMB connectors is designed to suit a range of telecom 75 ohm coaxial cables typically - RG179, BT3002 and TZC75024.



Standard Type 43 versus HDC 43 versus UHDC 43 series

Type 43 connectors are divided into two specific types, namely standard and high density versions (HDC).

The standard Type 43 connector version is designed for Digital Distribution Frames (DDF) with a 12.7mm spacing between the mounting holes (centre line to centre line).

HDC 43 connectors are designed for use in DDF's with a 10.0mm spacing between the mounting holes (centre line to centre line).

The UHDC 43 System is designed for use in DDF's where the connector mounting holes are on a 9.00mm pitch (centre line to centre line)

The Type 43 high density and ultra high density connector systems offer significant space saving over the standard connector range.

Type 43, HDC 43 and UHDC43 43 Generic Description and Part Numbers

Type 43 series connectors can be classified by the following generic telecom industry applications or descriptions:

Application or Description	Typical Connector Description Suffix
Digital distribution frame (DDF) "fixed" plugs	G, GTI & GTIS (single piece connector)
Cable mounted "free" sockets	F, FS (single piece connector)
DDF "U" links with and without test ports	9A, 9B (UHDC), 10A, 10B (HDC) and 13A, 13B (STD)
Right angle cable mounting "free" sockets	C
PCB mounting plugs, straight and right angle	1E & 1D

The suffix's as shown in the table above allow a fast easy reference to enable the user to determine the connectors application.

How a Type 43 part number is constructed

Example of how a Type 43 part number is constructed:

Example 1

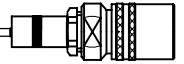
P43/5 GTIS

P43 - denotes plug (P) connector type 43 series standard version for 12.7mm pitch DDF block

5 - denotes cable type, where (5) = BT3002 / TZC 75024

Additional numbers for classifying cable groups are as follows:

Cable Group	P/N Numeric Code
BT2001	1 - e.g. P43/1GTIS
BT2002	2 - e.g. S43/2FS
BT2003	3 - e.g. HDCP43/3GTIS
BT3002/TZC75024	5 - e.g. HDCS43/5GTIS
RG179	4 - e.g. HDCS43/4FS



Example 2

HDCP43/5 GTIS

HDCP43 – denotes plug (P) connector type 43 series, high density version for 10.0mm pitch DDF block

5 – denotes cable type, where (5) = BT3002 / TZC 75024

GTIS – denotes single piece connector, full crimp design for "fixed" DDF applications

Cable type identification

In order to allow the user to visually identify a particular connector type when connectors are installed in a Digital Distribution Frame (DDF) each connector crimp sleeve is colour coded.

Different colours either **Green, Blue, Red and Black** are used to denote different cable types.

In the case of connectors for **RG179** and **RD179** the connector crimp sleeve has **no colour coding** only a plain finish.

For further details please see the table below:

Cable Designation	Colour Code	Basic Cable Details
BT2001	Green	4.4/75/S
BT2002	Blue	5.1/75/D
BT2003	Red	6.7/75/D
BT3002/TZC75024	Black	3.6/75/D
RG179	No colour code	2.6/75/S
RD179	No colour code	3.0/75/D

Type 43 series - EMC screening effectiveness

Due to the nature of its application and questions arising from EU EMC directives, as to the type 43 series EMC screening effectiveness, Radiall has now commissioned a series of tests to provide accurate information on this subject.

Using a BT2002 cable (terminated to a mated pair - Type 43 plug and socket) operating in a frequency range of 500 MHz to 2.4 GHz.

A brief summary of the test results ** are as follows : Using BT 2002 cable the type 43 series has a screening effectiveness of 70 dB at 1 GHz*.

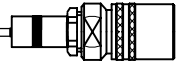
Using a superscreened cable results were obtained of – 90 dB at 1 GHz*.

During testing it has been determined that any emissions occur from the cable and not from the mated connectors.

Note :

*Test method used is reverberant chamber method.

** A detailed test report is available on request, please contact your local Radiall representative for further details.



Type 43 general technical specification

SPECIFICATIONS

Radiall 75 Ω coaxial Type 43 connectors are designed to meet or exceed the requirements of BS9210 F0022. The following information is subject to change without notice. The performance values shown are typical and may not relate to all connector styles available.

TYPICAL CONNECTOR CONSTRUCTION

Connector Parts	Materials	Plating Finish
Body Components*	Brass	Selective Gold
Outer Contacts	Bronze	Selective Gold
Centre Contacts (male)	Brass	Gold
Centre Contacts (female)	Beryllium Copper	Gold
Insulator	PTFE	Not applicable
Panel Grommet	Polyacetal	Not applicable
Ferrule	Brass	Nickel
Panel Mounting Hardware**	Brass or Phosphor Bronze	Nickel

* In general all Type 43 series connector bodies are gold plated in mating areas.

As a note the single piece Type 43 connector body is gold plated in the mating area with other surfaces being nickel coated. All multi-piece connector bodies comprise of a gold plated front body (mating area) and a nickel plated back body (crimp area).

** Panel mounting hardware includes components such as - nut, washer, spacer etc.

ELECTRICAL PERFORMANCE

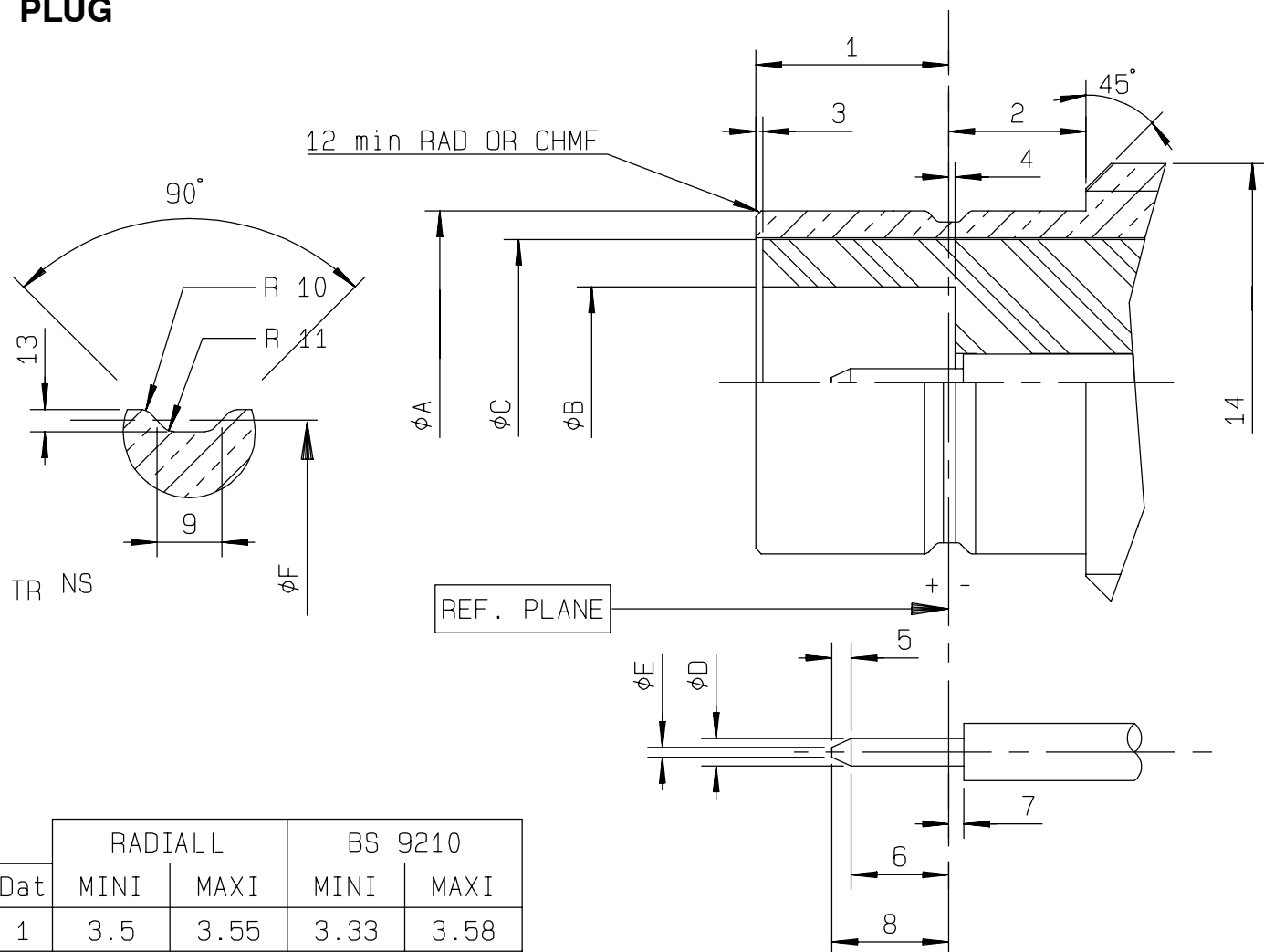
Electrical Characteristics	Typical Values
Nominal Impedance	75 Ω
Frequency Range	DC - 3 GHz
Temperature Range	- 40 to + 100 °C
VSWR (Straight Connectors)	1.20 max.
VSWR (Right Angle Connectors)	1.25 max.
Voltage Rating	500 Vrms max.
Dielectric Withstanding Voltage	1500 Vrms min.
Insulation Resistance	5000 M Ω min.

MECHANICAL PERFORMANCE

Mechanical Characteristics	Typical Values
Mechanical endurance	250 matings
Cable Retention (Plug Connectors)	220 N min.***
Cable Retention (Socket Connectors)	220 N min.***
Centre Contact Retention (Plug Connectors)	22 N min.
Centre Contact Retention (Socket Connectors)	22 N min.
Weight	10 g (grams) typical

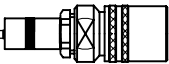
*** Note, **lower cable retention value** for RG179 - 60 N min and BT3002/TZC 75024 - 150 N min.

PLUG

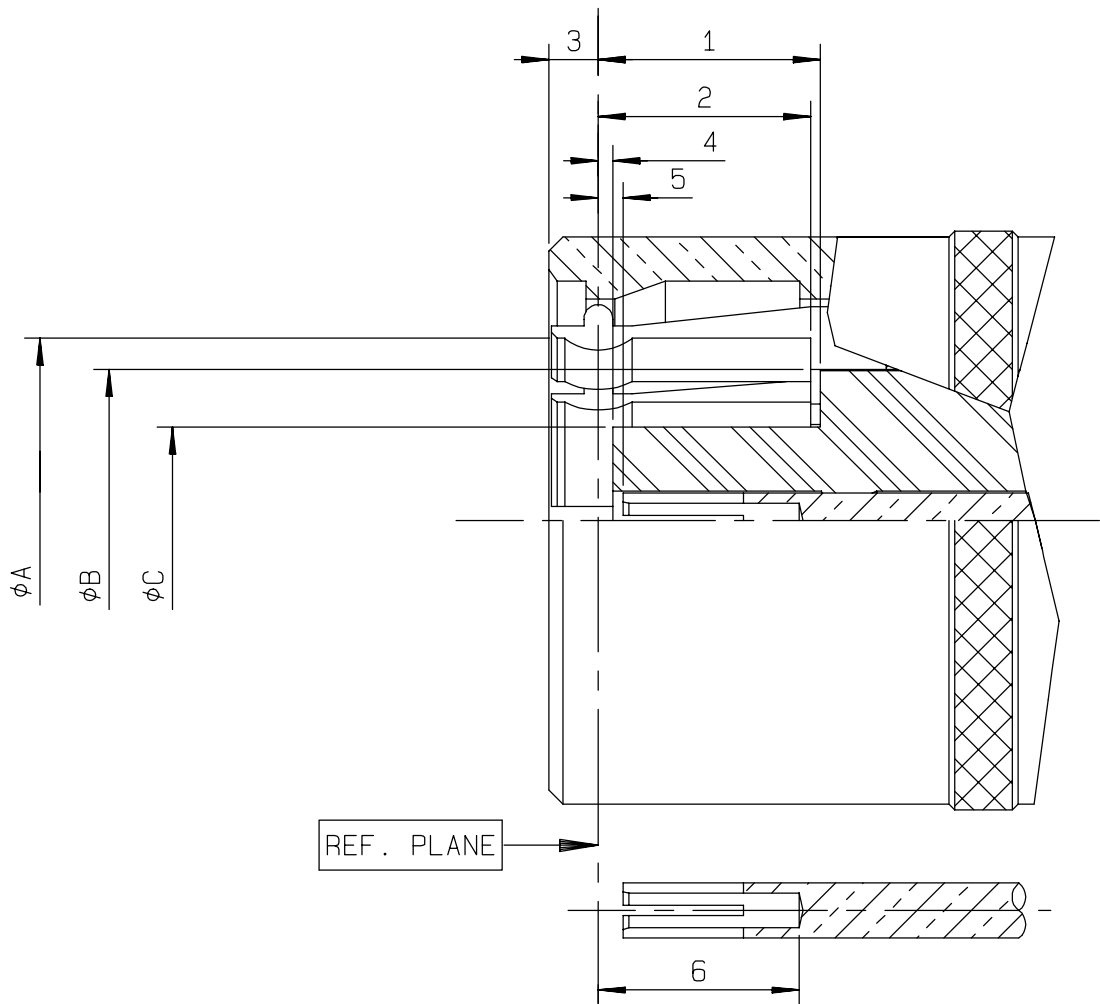


Dat	RADIAL		BS 9210	
	MINI	MAXI	MINI	MAXI
1	3.5	3.55	3.33	3.58
2	2.40	2.55	2.01	-
3	0.00	0.10	0.00	-
4	0.05	0.175	-	0.18
5	0.25	0.35	0.25	-
6	1.35	-	1.32	-
7	-	0.18	-	0.18
8	-	2.05	-	2.97
9	0.58 NOM		0.58 NOM	
10	0.05	0.15	0.05	0.15
11	-	0.13	-	0.13
12	0.10	0.20	0.10	
13	0.15	0.25	0.15	0.25
14	5/16" 32 UNEF-2A		-	7.94

Dat	RADIAL		BS 9210	
	MINI	MAXI	MINI	MAXI
ϕA	6.20	6.23	6.20	6.25
ϕB	3.40	3.475	3.35	-
ϕC	5.25 NOM		5.60 NOM	
ϕD	0.48	0.52	0.48	0.53
ϕE	0.125	0.225	-	0.25
ϕF	5.97	6.02	5.97	6.07



SOCKET



Dat	RADIAL L		BS 9210	
	MINI	MAXI	MINI	MAXI
1	3.63	3.83	3.58	-
2	3.61	3.77	3.58	-
3	-	1.8	-	2.36
4	0.23	0.38	0.18	-
5	0.23	0.48	0.18	0.94
6	3.2	3.53	2.97	-

Dat	RADIAL L		BS 9210	
	MINI	MAXI	MINI	MAXI
ϕA	6.31	6.36	6.25	-
ϕB	5.25 NOM		5.60 NOM	
ϕC	3.22	3.30	-	3.33