



profile



15 to 54mm



Press a 28mm fitting onto the stainless tube in under 9 seconds. Join done.

Faster to Install

Blucher Press-Fit offers large time savings compared to welding, threading, grooving or glueing.

Safer to Use

- We train your team onsite.
- Simple tool operation.
- Lightweight battery tools.
- No flames or hot work permits.
- No heavy gas tanks.
- No hazardous fumes.
- Less risk.

Experience Counts

- We were the first to supply press-fit stainless in Australia & New Zealand.
- We work with consultants & installers on specialised complex projects regularly.

Quality to Install

- Approved to Australian & International standards.
- **Material traced from coil to tube & fittings (3.1 certs).**
- Greater resistance & tolerance to chlorides for cleaning chemicals, saltwater and bore waters.

Reliable Design

- Suits a wide range of applications.
- Permanent high strength with the original 'M' press join profile.
- Consistent low profile join look & quality each time.

Environmental Choice

- Long service life.
- Closed loop material (completely recycled to make more stainless).
- Efficient and waste free install.
- Green Star project experience.

Installing Press-Fit

DUPLEX

Start to install quicker...

Blucher Press-Fit is installed easily & quickly using a Press Tool to form a permanent 'M' profile pressed joint between tube and fitting.

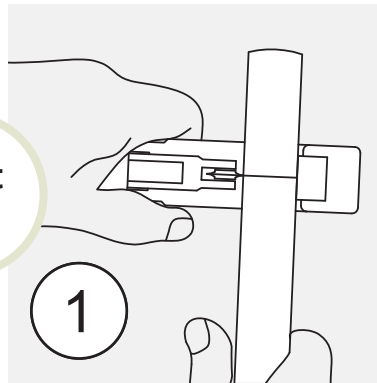


Start here

Check for suitability...

Both the piping material (eg 2205 stainless steel) and the elastomer (eg rubber ring seal) must be checked if suitable for the possible fluids and exterior environments.

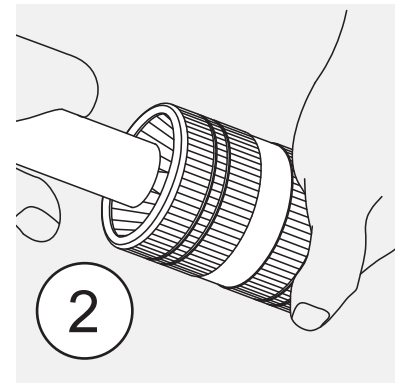
If in doubt, ask us!



Cut to Length

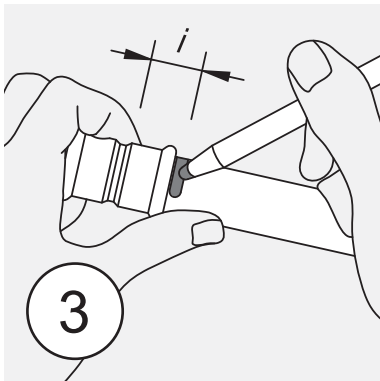
Cut the tube at right angles using a tube cutter or fine tooth saw.

Note: Using the same cutting tool on different metals can lead to corrosion (eg steel then stainless).



Debur Tube

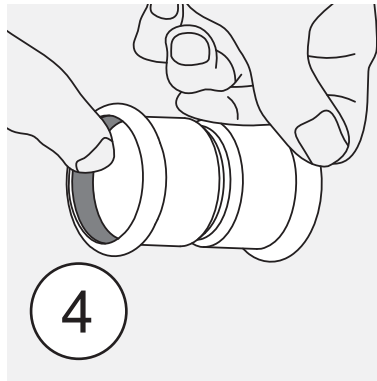
Debur both inside & outside edges of tube to prevent damage to the ring seal of the fitting.



Mark the Insertion Depth "i"

Measure or use a depth gauge to mark the insertion depth (socket depth) onto the tube end.

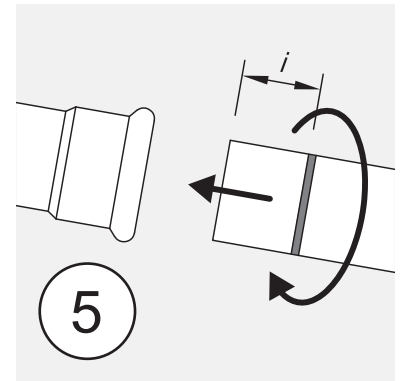
This is a visual quality control mark to ensure the tube is fully inserted.



Inspect Fitting & Ring Seals

Check that the rubber ring seal is:

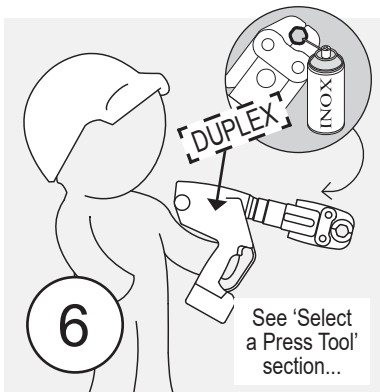
- The correct material type (colour) of seal is used.
- The seal is not damaged.
- Both fitting & seal are free of debris.



Join the Tube & Fitting

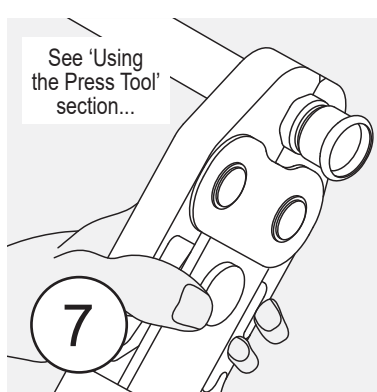
Insert the tube into the fitting press socket, turning slightly until it reaches the previously marked insertion depth.

Soapy water can be used if joining is difficult.



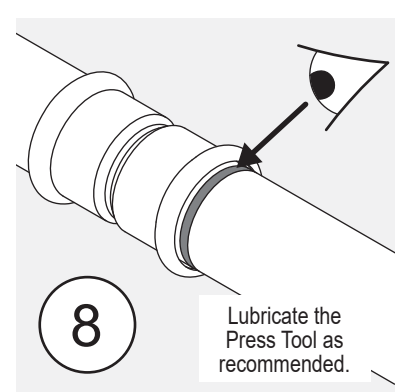
Press Tool Selection

Select the correct press tool, jaw or collar marked with DUPLEX to suit the fitting. Ensure press zone is lubricated each press with Inox spray.



Press the Join

Open the press tool jaw, align with the press socket and start the Press Tool to join the fitting & tube.

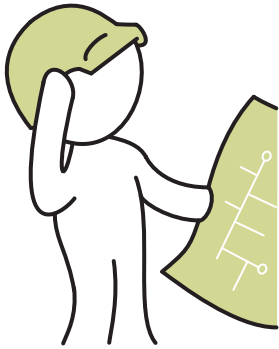


Check & Complete

Visually inspect the pressed fitting & that the insertion mark is aligned with the end of the socket.

Select a Press Tool

Read with 'Using the Press Tools' section.



The right tool for the job...

Our fleet of tools are designed to install Blucher Press-Fit quickly & consistently without the need for welding or threading to form a permanent joint.

Start here

Our trained Sales Executives can meet onsite for Press Tool training to meet your OH&S requirements and we maintain records of attendees.



Duplex Tools for Duplex Stainless

Ensure the jaw, collar & press cylinder is marked with DUPLEX. These are specially engineered to withstand the pressures needed to press 2205 stainless.

The 'M' Profile Press...

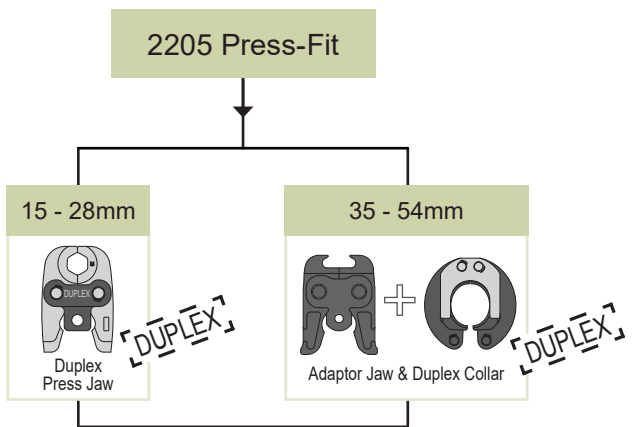
Blucher Press-Tools are calibrated to suit our products and although they may look similar to others, the tolerances of the systems are different.

Our tooling recognises the difference and does not complete a full press. Any warranty or similar is void as a result.

Joint Log Book: For project QA

Now available

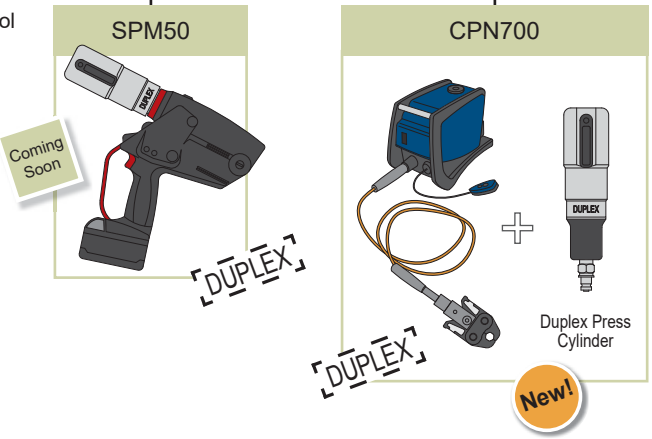
OD Press-Fit Diameters:



Max System Working Pressure*: 1600 kPa 16 bar 232 psi

Subject to applicable approval and regulation maximum pressures.

Press Tool Options:



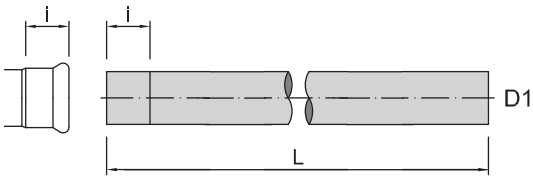
Can DUPLEX 2205 stainless jaws and collars be used on Metric 316 stainless steel fittings?

Yes, but DUPLEX marked jaws and collars must be used on 2205 stainless fittings. Only DUPLEX jaws and collars are designed with the strength to press 2205 stainless press-fit correctly.

Please Note:

This chart is a guide and full specifications and instructions are available on request.

■ Tube - Metric OD 2205 Stainless



2205 tube is supplied as TIG welded.

DUPLEX

OD

i = insertion depth. Tube must be inserted into the press socket a minimum distance to ensure the joint is pressed successfully.

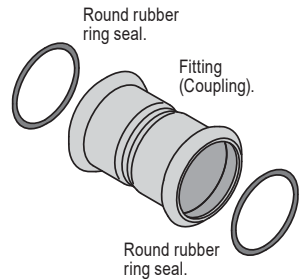
Material: 2205 stainless steel, 320 grit finish.

Product No	D1 (mm)	DN	i depth	Length (L)	t Wall	Tube Weights (kg)		
						dry/m	dry/6m	wet/m
2205.96.015	15	12	20	6m	1.0	0.4	2.1	0.5
2205.96.022	22	20	21	6m	1.2	0.6	3.8	0.9
2205.96.028	28	25	23	6m	1.2	0.8	4.9	1.3
2205.96.035	35	32	26	6m	1.5	1.3	7.6	2.1
2205.96.042	42	40	30	6m	1.5	1.5	9.2	2.7
2205.96.054	54	50	35	6m	1.5	2.0	11.9	4.0

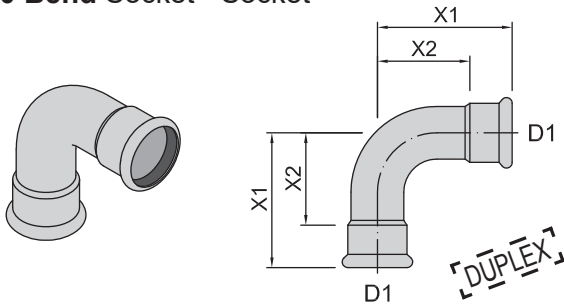
Rubber Ring Seals

Depending on the application, the ring seals may need to be changed to a different type for higher chemical or temperature resistance.

More info in the ring seal product listing.



■ 90 Bend Socket - Socket

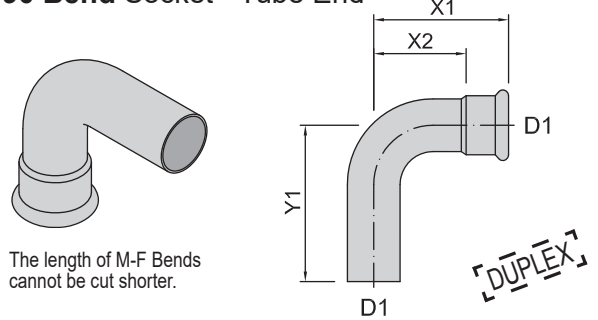


Material: 2205 stainless steel.

Ring Seal: EPDM x2 supplied.

Product No	D1	X1	X2
2205.31.090.015	15	48	28
2205.31.090.022	22	61	41
2205.31.090.028	28	71	48
2205.31.090.035	35	86	60
2205.31.090.042	42	112	82
2205.31.090.054	54	137	103

■ 90 Bend Socket - Tube End

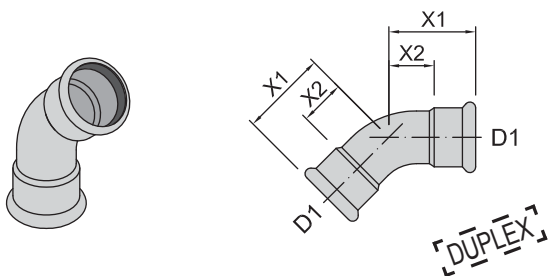


Material: 2205 stainless steel.

Ring Seal: EPDM x1 supplied.

Product No	D1	X1	X2	Y1
2205.32.090.015	15	48	28	60
2205.32.090.022	22	61	41	72
2205.32.090.028	28	71	48	83
2205.32.090.035	35	86	60	97
2205.32.090.042	42	112	82	122
2205.32.090.054	54	137	103	148

■ 45 Bend Socket - Socket

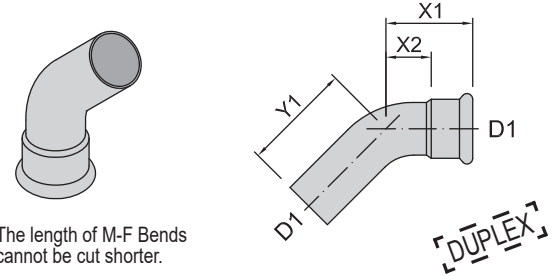


Material: 2205 stainless steel.

Ring Seal: EPDM x2 supplied.

Product No	D1	X1	X2
2205.31.045.015	15	34	14
2205.31.045.022	22	41	21
2205.31.045.028	28	46	23
2205.31.045.035	35	54	28
2205.31.045.042	42	67	37
2205.31.045.054	54	80	46

■ 45 Bend Socket - Tube End



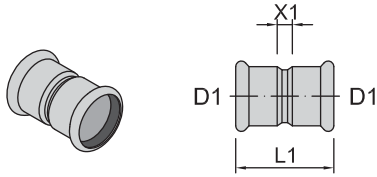
Material: 2205 stainless steel.

Ring Seal: EPDM x1 supplied.

Product No	D1	X1	X2	Y1
2205.32.045.015	15	34	14	47
2205.32.045.022	22	41	21	52
2205.32.045.028	28	46	23	58
2205.32.045.035	35	54	28	65
2205.32.045.042	42	67	37	77
2205.32.045.054	54	80	46	107

■ Coupling Socket - Socket

DUPLEX



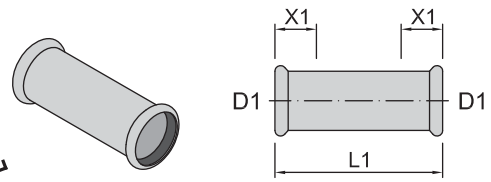
Material: 2205 stainless steel.

Ring Seal: EPDM x2 supplied.

Product No	D1	L1	X1
2205.21.015	15	48	8
2205.21.022	22	47	5
2205.21.028	28	52	6
2205.21.035	35	70	18
2205.21.042	42	78	18
2205.21.054	54	85	15

■ Slip (Repair) Coupling Socket - Socket

DUPLEX



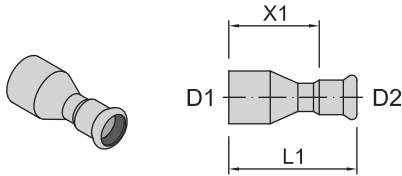
Material: 2205 stainless steel.

Ring Seal: EPDM x2 supplied.

Product No	D1	L1	X1min
2205.22.015	15	80	27
2205.22.022	22	71	19
2205.22.028	28	89	22
2205.22.035	35	99	26
2205.22.042	42	114	30
2205.22.054	54	136	34

■ Spigot Reducer Socket - Tube End

DUPLEX

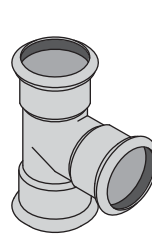


Material: 2205 stainless steel.

Ring Seal: EPDM x1 (D2) supplied.

Product No	D1	D2	L1	X1
2205.23.022.015	22	15	64	44
2205.23.028.015	28	15	68	48
2205.23.028.022	28	22	65	45
2205.23.035.022	35	22	81	61
2205.23.035.028	35	28	74	51
2205.23.042.028	42	28	82	59
2205.23.042.035	42	35	88	62
2205.23.054.028	54	28	93	70
2205.23.054.035	54	35	101	75
2205.23.054.042	54	42	101	71

■ Tee Equal Socket x3

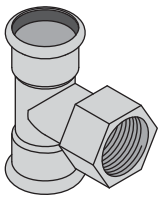


Material: 2205 stainless steel.

Ring Seal: EPDM x3 supplied.

Product No	D1	X1	X2	Y1	Y2
2205.51.015	15	32	12	39	19
2205.51.022	22	36	16	42	22
2205.51.028	28	41	18	47	24
2205.51.035	35	50	24	53	27
2205.51.042	42	57	27	60	30
2205.51.054	54	68	34	71	37

■ FI Tee Socket Ends - FI BSP Branch

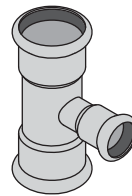


Material: 2205 stainless steel.

Ring Seal: EPDM x3 supplied.

Product No	D1	FI BSP	X1	X2	Y1
2205.53.015.015	15	1/2"	32	12	36
2205.53.022.015	22	1/2"	35	15	39
2205.53.022.020	22	3/4"	35	15	44
2205.53.028.015	28	1/2"	41	18	42
2205.53.028.020	28	3/4"	41	18	46
2205.53.035.015	35	1/2"	50	24	45
2205.53.035.020	35	3/4"	50	24	50
2205.53.042.015	42	1/2"	57	27	48
2205.53.042.020	42	3/4"	57	27	52
2205.53.054.015	54	1/2"	68	34	58
2205.53.054.020	54	3/4"	68	34	58
2205.53.054.050	54	2"	68	34	76

■ Tee Reduced Socket x3



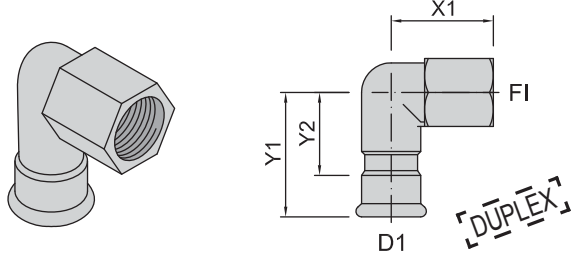
Material: 2205 stainless steel.

Ring Seal: EPDM x3 supplied.

Product No	D1	D2	X1	X2	Y1	Y2
2205.52.022.015	22	15	35	16	42	22
2205.52.028.015	28	15	41	19	45	25
2205.52.028.022	28	22	41	19	46	25
2205.52.035.015	35	15	50	24	48	28
2205.52.035.022	35	22	50	24	49	28
2205.52.035.028	35	28	50	24	51	28
2205.52.042.022	42	22	57	27	51	31
2205.52.042.028	42	28	57	27	53	31
2205.52.042.035	42	35	57	27	57	31
2205.52.054.022	54	22	68	34	57	37
2205.52.054.028	54	28	68	34	60	38
2205.52.054.035	54	35	68	34	63	37
2205.52.054.042	54	42	68	34	67	37



FI 90 Bend Socket - FI BSP

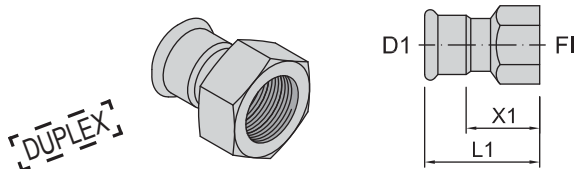


Material: 2205 stainless steel.

Ring Seal: EPDM x1 supplied.

Product No	D1	FI BSP	X1	Y1	Y2
2205.34.015.015	15	1/2"	37	57	37
2205.34.022.015	15	1/2"			
2205.34.022.020	22	3/4"	46	59	39
2205.34.028.025	28	1"	54	67	44
2205.34.035.032	35	1 1/4"	63	75	49

FI Adaptor Socket - FI BSP

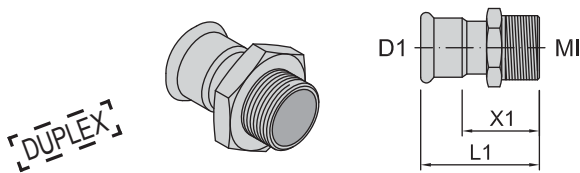


Material: 2205 stainless steel.

Ring Seal: EPDM x1 supplied.

Product No	D1	FI BSP	L1	X1
2205.73.015.015	15	1/2"	54	34
2205.73.022.015	22	1/2"	52	32
2205.73.022.020	22	3/4"	55	35
2205.73.028.025	28	1"	60	37
2205.73.035.032	35	1 1/4"	69	43
2205.73.042.040	42	1 1/2"	77	47
2205.73.054.050	54	2"	90	56

MI Adaptor Socket - MI BSP

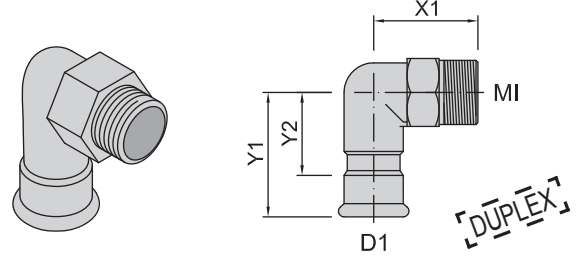


Material: 2205 stainless steel.

Ring Seal: EPDM x1 supplied.

Product No	D1	MI BSP	L1	X1
2205.74.015.015	15	1/2"	53	33
2205.74.022.020	22	3/4"	57	37
2205.74.028.025	28	1"	63	40
2205.74.035.032	35	1 1/4"	71	45
2205.74.042.040	42	1 1/2"	78	48
2205.74.054.050	54	2"	84	50

MI 90 Bend Socket - MI BSP



Material: 2205 stainless steel.

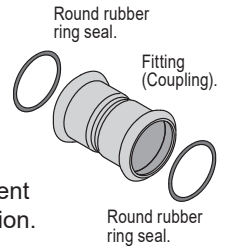
Ring Seal: EPDM x1 supplied.

Product No	D1	MI BSP	X1	Y1	Y2
2205.35.015.015	15	1/2"	37	57	37
2205.35.022.020	22	3/4"	46	59	39
2205.35.028.025	28	1"	54	67	44
2205.35.035.032	35	1 1/4"	63	75	49
2205.35.042.040	42	1 1/2"	67	84	54
2205.35.054.050	54	2"	78	93	59

Ring Seals

Fittings with a press-fit socket are fitted with a EPDM rubber ring seal as standard.

Depending on the media, this ring seal should be changed to a different rubber material to suit the application.



Refer to our relevant Technical Media Chart for suitability or contact us for more information.

Type:	Pre-fitted in fitting socket*	Optional extra	Optional extra
	EPDM Standard	FKM (Viton) High Temp	NBR Oil & Gas
	Black -20°C to +110°C	Red or Green -20°C to +200°C	Yellow or Grey -20°C to +70°C
D1	Product No	Product No	Product No
10	see note...	FKM.11.010	-
15	EPDM.11.015	FKM.11.015	NBR.11.015
22	EPDM.11.022	FKM.11.022	NBR.11.022
28	EPDM.11.028	FKM.11.028	NBR.11.028
35	EPDM.11.035	FKM.11.035	NBR.11.035
42	EPDM.11.042	FKM.11.042	NBR.11.042
54	EPDM.11.054	FKM.11.054	NBR.11.054



Blucher 2205 Press-Fit Systems Technical Data Sheet – M Profile Metric S/S

BLUCHER Australia Pty Ltd
 Technical
 Version: Oct 2015

Page 1 of 2

The following table is to be used as a reference guide only.
 Please contact Blucher Australia for additional technical information and clarification for specific applications or requirements.
 This table is to be read in-conjunction with the Media Chart, available from Blucher Australia.



M Profile 2205 Metric Press-Fit System (S/S) UNS32205 / EN 14462

Applications:

- Chemical lines,
- Chilled Water,
- Compressed Air,
- Fuels/ Oils,
- Gases/ Inert Gases,
- Marine,
- Potable Water,
- Treated Water – RO, Demineralised, etc.,
- Vacuum,
- Rising Mains,
- Other applications on request.

Material Description (Tube):

- TIG welded,
- Metric Sizing,
- 2205 Stainless Steel,
- 320 Grit finish (polished),
- ASTM789 compliant tube,
- EN 10312 compliant tube,
- 3.1 certified; traceable batch numbers,
- Longitudinal welded, rolled seam,
- Markings – black.

Material Description (Fittings):

- M Profile,
- 3.1 certified; traceable batch numbers,
- 2205 Stainless Steel Sch 5s,
- Butyl rings fitted as standard,
- Metric Sizing,
- Markings – laser etched.

System Standards & Approvals:

- AS4020 Certified,
- Marine (pending),
- AS4041,
- AS1940,
- LANL B31.3,

Blucher Press Ring Seals:

- Do not contain any softening agents or other fillers, which lead to embrittlement,
- Have a slow aging process,
- Are stable in high temperatures,
- Maintain a low compression set value even at higher temps,
- Have a low oxygen permeation rate; this is critical in avoiding corrosion effects due to the intrusion of oxygen.

Refer to the Media Chart for which ring seal is used for each application.

**EPDM (Black)
 Fitted as Standard**

- Material: Ethylene Propylene Diene Monomer Rubber,
- Operating Temp: -20°C to +110°C.

**FKM (Green,)
 Supplied Fitted When Requested**

- Material: Fluorocarbon (Viton),
- Operating Temp: -20°C to +200°C.

**NBR (Grey)
 Supplied Fitted When Requested**

- Material: Hydrogenated Acrylonitrile Butadiene,
- Operating Temp: -20°C to +70°C.

Fitting, Tube Size & Wall Thickness

- The system is designed in European metric sizing,
- Tube is equivalent to Schedule 5,
- ± Tolerances as per compliant standards.

Tube & Fitting OD (mm)	Tube Wall Thickness (mm)
15	1.0
22	1.2
28	1.2
35	1.5
42	1.5
54	1.5

Chemical Composition (nominal) %

C	Si	Mn	P	S	Cr	Ni	Mo	N
≤0.030	≤1.0	≤2.0	≤0.030	≤0.015	22	5	3.2	0.18

Pressure Rating:

- 16 bar depending on your installation parameters,
- Refer to the media charts for applications,
- Media charts are a guide only,
- Other applications available on request.

Trained Installer Considerations:

- Understand Suitability of the Material,
- Correct Cutting & Deburring Methods,
- Use and Importance of Depth Gauge / Insertion Depth,
- Push & Twist to insert (water or soap for lubricant – never oil / grease),
- Installation Guidelines Apply Only to Blucher Supplied Press Systems & Tools,
- Installation Guidelines, Tools & Training Void if used on Non-Blucher Products,
- Understand Importance of Tool Servicing & Daily Maintenance,
- Recognition of Goods Received.

National and International Sales Team:

WA: 0433 502 350 SA: (08) 8374 3426 QLD: 0410 650 023

Customer Care Centre Adelaide (warehouse) (08) 8374 3426

NSW: 0430 303 623 VIC: 0424 325 533 NZ: +64 9 271 1781 (Steel & Tube)

Press Tools:

- Duplex Tools are system unique,
- Only Blucher Duplex tools can be used,
- Blucher Australia is the licensed service agent for Vetec Duplex Tools,
- The Press Tools are sold, hired and serviced by our Customer Service Centre in Adelaide, SA,
- Blucher Australia can assist with correct tool selection,
- Blucher Australia will attend site and train installation staff free of charge,
- Training certificates are issued for staff records.

Technical Support:

Blucher Australia provides:

- System / installation suitability checks for all of our products,
- Water testing and Metallurgist reports to ensure correct product selection,
- Insulation and lagging selection assistance,
- CAD / REVIT BIM drawings available on request,
- Installation design,
- Product alterations, special design,
- Standards reference assistance,
- Representation in each State and Territory.

More Information:

Contact BLUCHER Australia...

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Blucher Press FAQ

What is Grade 2205?

Combining the beneficial properties of both ferritic and austenitic steels, 2205 is the most widely used duplex stainless steel grades. Its high chromium and molybdenum content gives the stainless steel excellent corrosion resistance. The microstructure provides resistance to stress corrosion cracking and ensures high strength. The grade is generally not suitable for use at temperatures above 300°C or below -50°C because of reduced toughness outside this range. You are most likely to encounter 2205 stainless steel being used in industrial environments such as petrochemical, chemical, oil, gas and paper plants.

Composition

Grade 2205 has a micro structure of roughly equal amounts of ferrite and austenite, hence the 'duplex' description. The duplex structure of 2205 has the following properties:

- High strength.
- Lower thermal expansion co-efficient than austenitic steels but greater than carbon steels.
- High resistance to corrosion, particularly stress corrosion cracking, corrosion fatigue and erosion.
- Duplex Stainless Steels are magnetic due to the ferrite content.

The high content of chromium and molybdenum and the addition of nitrogen gives the steel further beneficial characteristics:

- High general corrosion resistance.
- High pitting and crevice corrosion resistance.
- Good sulphide stress corrosion cracking resistance.



1. Why is 3.1 certification important	3.1 means the fittings and tubes can be traced back to the raw material from which they were made. Having 100% tractability allows us to isolate issues with individual fittings and tubes, preventing the whole installation being condemned. Our fittings are laser etched with OF-Numbers
2. What is the difference between profiles	M = Mannesmann 1 st produced in the 1950s V = Viega produced in the 1970 S or SA = Sanha produced 2005
3. Does the V profile lip provide a better joint	No, the lip is due to patent issues and Viega's design. The lip doesn't add to joint integrity.
4. Does the profile dictate pressure rating	Yes, M profile is 25bar rated from 15 – 108mm V profile is 25bar rated from 15 – 54mm and 16bar rated from 76.1 – 108mm S profile is 25bar rated from 76.1 – 108mm Note: Sanha have two agents in AS/NZ. IbeX and Kembla. Sanha's fittings are V profile 15 – 54mm and swap to S for the larger sizes.
5. What tools are used for the Duplex System	VecTec in Germany were engaged to build special tools for the Duplex System. The press tool is 50kN, meaning the jaw interface pin, jaws themselves, adapter jaw and collars have been redesigned to handle the increased torque required to press 2205. Standard tools cannot be used. For safety the duplex tools are not adaptable with standard tools and vice versa.
6. Joint pressure ratings – others claiming 40bar applications	Please speak with Blucher before commencing works. 40bar working pressure is completely false and misleading, no tool manufacture will endorse 40bar. 40bar is the test pressure only, burst test to destruction table's show 40bar, not actual working pressure. The Duplex pressfit system is 16bar working pressure for standard applications,
7. Tool training	Blucher attends site and tool trains free of charge. Each session runs 45min and the students must sign onto our installation protocol guidelines. A sign copy is sent the employer for HR to record.
8. Pressure testing	AS per AS/NZ3500 which states 1.5 x the working pressure, Blucher has test procedure sheets to assist with comp air, inert gas and water testing
9. Leaking joints	If a leak is detected due to an un-pressed joint, then the joint can be pressed whilst the system is under load. If the joint is pressed incorrectly, then the fittings must be replaced, Generally speaking stainless fittings only leak for one of three reasons, 1/ the fitting wasn't pressed, 2/ the tube wasn't inserted to the correct depth (witness marked), 3/ the joint wasn't pressed correctly, misaligned tooling (double pressing is not recommended) If properly installed then the seal and connection will last as long as the piping system,
10. Ring seal life cycle	
11. Can Blucher press be installed underground	Yes, however a Blucher technician must sign off on the installation prior to works commencing.
12. Any special requirements for oil and fuel installations	Yes, a thermal relief valve must be installed. This will ensure the thermal expansion of the media doesn't cause damage to the press joints. Viton rings must be used also.
13. Who can provide design assistance	Blucher can provide 3D Revit and CAD drawings for all our systems. We have staff in house who can assist with writing specifications and the manufacturing of speciality items. Blucher can seek advice from a metallurgist, water testing agencies and an industrial chemist if required Blucher has written our own WTIA specification. All items manufactured must comply under this spec.
14. Welding qualifications	
15. What bracket centres should I use	As per AS/NZ3500 or AS4041.
16. Is your tube seamless	Both the external and internal weld beads are removed post welding. This makes the tube suitable for the food industry and classed as seamless under ASTM A269.
17. Where can I find out about expansion and flow rates for your system	Both can be found in our technical catalogue on our web site or call Blucher for assistance.
18. What type of lagging is suitable for stainless steel	Only lagging that is low in chlorides must be used, Bradflex, Amourflex and other of this type are not suitable for use with stainless steel, Blucher can assist with the correct lagging selection.

Information provided is intended to be used as a guide only and can be updated at any time without notice.
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