

Fittings



TUPY

Your Reliable Brand



FITTINGS

Technical Catalog

BSP
Medium Pressure NPT Class 150
High Pressure NPT Class 300
TUPYPRES®

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Malleable Iron

Definition

Malleable Cast Iron is the cast iron which has in its microstructure, in the crude casting state, carbon in a totally combined manner and which after thermal malleabilization treatment can have annealing graphite (compact), ferrite, perlite or microstructure of hardening and tempering, without a significant presence of eutectic carbides.

Properties

The main properties of the material used in the TUPY fittings are specified by the Brazilian Technical Standards Association (ABNT), among which the following stand out:

- Mechanical Resistance • Resistance to Corrosion • Resistance to Wear

Applications

Malleable, or wrought, iron is a material used in practically all industrial fields.

Its use is indispensable in manufacturing parts with complex shapes, subject to the most varied works, where it has an excellent performance for all the life of the machine or equipment of which it is a part.

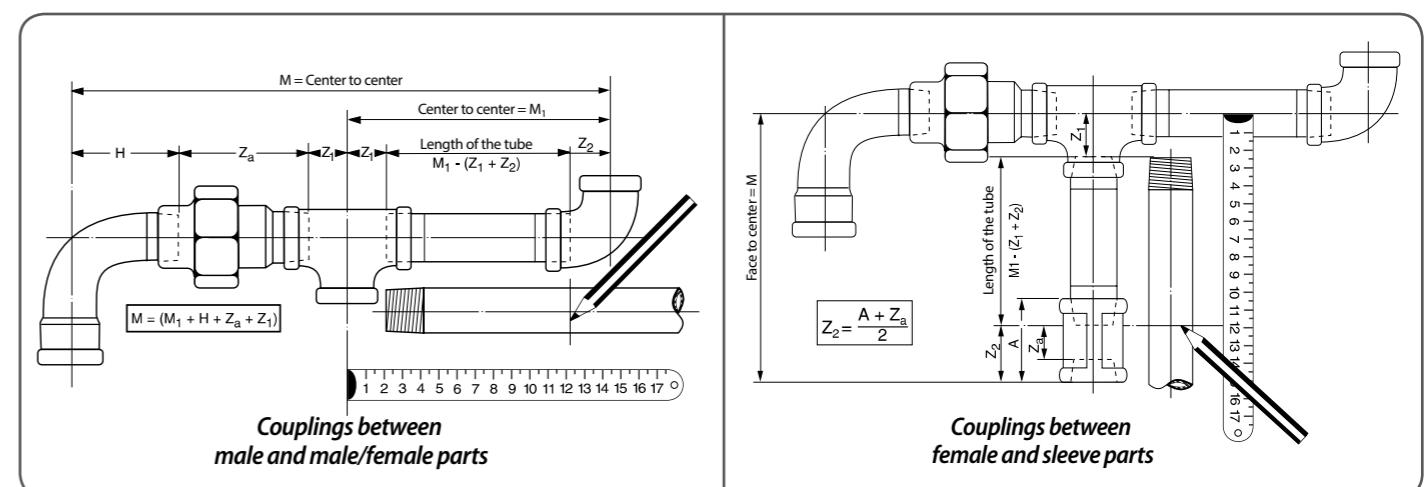
Malleable iron, with properties of proven worth, is foreseen for parts of the automotive, electro-electronic, railroad, etc. industry, which undergo extremely severe conditions of use. TUPY S.A., one of the largest suppliers of these parts, uses the same material for manufacturing its line of fittings.

Assemblies with TUPY Fittings

Standard method for determining the distance from center to center and length of the pipe.

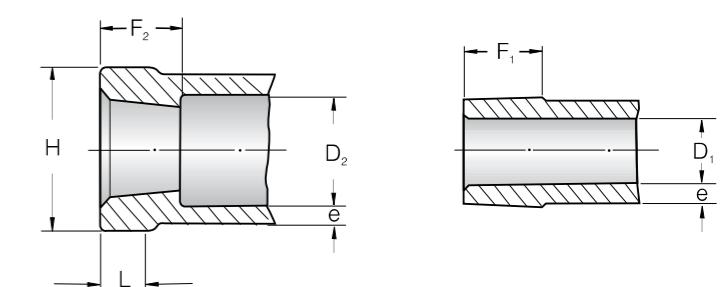
Measure -Z-

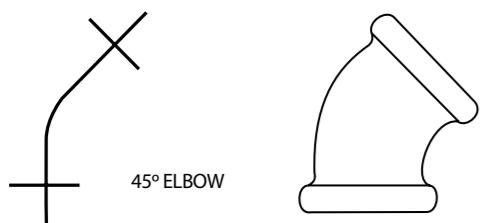
To obtain it, just reduce from the length appearing in the figures (fittings) of this catalog the length of the threads in the table below. In the fittings with an external thread (male), measure Z is equal to the length appearing in these figures.



Length of Threads of Fittings in (mm)

Nominal Diameter	BSP	Medium NPT		High NPT	
	F1=F2	F1(min)	F2(min)	F1(min)	F2(min)
1/4	11,0	10,2	8,1	10,2	10,9
3/8	11,5	10,4	9,1	10,4	11,9
1/2	15,0	13,5	10,9	13,5	14,5
3/4	16,5	14,0	12,7	14,0	16,3
1	19,0	17,3	14,7	17,3	19,1
1 1/4	21,5	18,0	17,0	18,0	21,3
1 1/2	21,5	18,3	17,8	18,3	22,1
2	26,0	19,3	19,1	19,3	25,4
2 1/2	30,5	29,0	23,4	29,0	29,7
3	33,5	30,5	24,9	30,5	31,2
4	39,5	33,0	27,4	33,0	33,7
6	43,5	38,4	32,5	38,4	39,0





To facilitate and speed up the representation and reading of hydraulic systems, symbols are used to represent the various components.

The isometric perspective is the manner of representing in drawing:
- the piping which allows the advanced localization of the parts required
- the dimensions of pipes and quantity of material.

In the isometric drawings the representation of vertical pipes is executed by vertical lines and the horizontal pipes are represented by lines inclined at 30° to the horizontal, as shown in fig. 1 and 2.

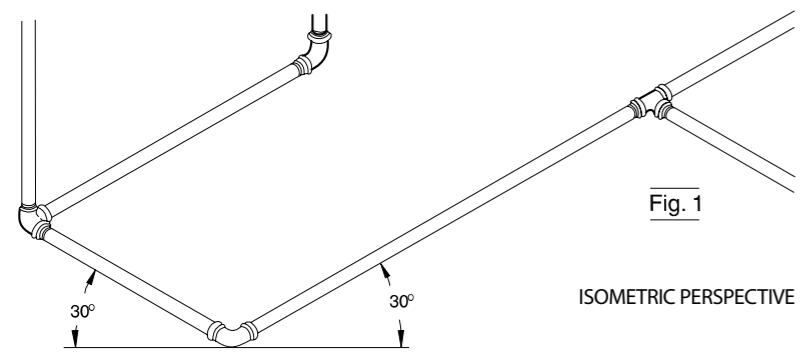


Fig. 1

ISOMETRIC PERSPECTIVE

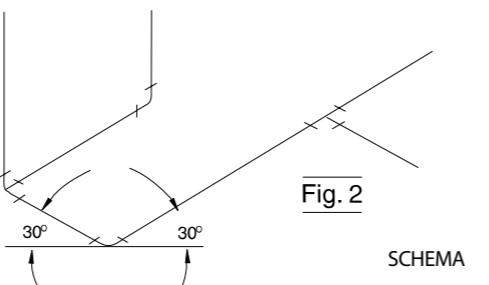


Fig. 2

SCHEMA

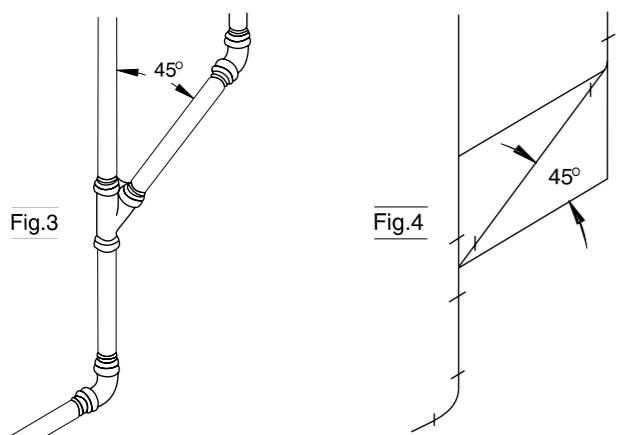


Fig. 3

Fig. 4

The pipes outside the horizontal or vertical are represented by lines at an inclination differing from 30°, the actual angle of pipe inclination having to be marked in the drawing (fig. 3 and 4).

In the isometric drawings it is impossible to represent and locate all the accessories and splices (threads, welds, flanges, etc.) of the piping.
Pre-assembly is an installation technique which allows the cutting and threading of pipes and the specification of fittings and other accessories.
It is advisable to assemble the parts of the circuit in the workshop, where there are more resources, and then take them to the installation site.
These facilities are only achieved through preparing an isometric plan.

TupyCAD

It is a complete library of hydraulic graphic symbols composed of all the TUPY BSP and NPT fittings, to operate in AutoCAD™ hydraulic projects.

Request your cd-rom by email: engaplic@tupy.com.br



DENOMINATION	SYMBOL	STANDARD
Reducing Bushing		ANSI
Plug		ANSI
Elbow		ANSI
Elbow (turned downwards)		ANSI
Elbow (turned upwards)		ANSI
Reducing Elbow (the Nos indicate the gauges)		ANSI
45° Elbow		ANSI
Male-Female Elbow		ANSI
Elbow with side outlet (outlet downwards)		ANSI
Elbow with side outlet (outlet upwards)		ANSI
Cross		ANSI
Reducing Cross (Elbow with side outlet)		ANSI
Female Bend		ANSI
Male-Female Bend		RECOM.TUPY
Male Bend		RECOM.TUPY
45° Male-Female Bend		RECOM.TUPY
Transposition Bend		ANSI
Return Bend		RECOM.TUPY
Sleeve		RECOM.TUPY
Concentric Reducing Sleeve		ANSI
Eccentric Reducing Sleeve		ANSI
Double Nipple		RECOM.TUPY
Cap		ANSI
Tee		ANSI

DENOMINATION	SYMBOL	STANDARD
Tee (with outlet downwards)		ANSI
Tee (with outlet upwards)		ANSI
45° Tee		RECOM.TUPY
Reducing Tee (the Nos indicate the gauges)		ANSI
Double Bend Tee		ANSI
Union with Flat Seat		DIN
Union with Lon Conic Iron Seat		RECOM.TUPY
Union with Bronze Conic Seat		RECOM.TUPY
Union with MF Lon Conic Iron Seat		RECOM.TUPY
Expansion Joint		ANSI
Joint Connecting in Pipe		ANSI
Angle Valve		DIN
Angle Float Valve		DIN
Angle Retaining Valve		ANSI
Angle Slide Valve (elevation)		ANSI
Angle Slide Valve (plant)		ANSI
Angle Globe Valve (elevation)		ANSI
Angle Globe Valve (plant)		ANSI
Angle Valve with Hose Connection		ANSI
Slide Valve		ANSI
Retaining Clapper Válve		DIN
Slide Valve with Hose Connection		ANSI
Globe Valve		ANSI
Globe Valve Operated by Motor		ANSI

Graphic Symbols for Hydraulic Diagrams

DENOMINATION	SYMBOL	STANDARD
Globe Valve with Hose Connection		ANSI
Safety Valve		ANSI
Safety Valve with Diaph. & Load for Spring		DIN
Safety Valve with Counterweight		DIN
Retaining Valve		ANSI
Foot Retaining Valve		DIN
Straight Passage Retaining Valve		ANSI
Diaphragm Valve		ANSI
Control Valve with Opening for Pressure		ANSI
Control Valve with Closing for Pressure		ANSI
Clapper Valve		DIN
Foot Clapper Valve		DIN
Slide Valve Operated by Motor		ANSI
Valve Operated by Motor		ANSI
Hydraulic Operated Valve		ANSI
Electrical Operated Valve		ANSI
Pneumatic Operate Valve		ANSI
Solenoid Operated Valve		ANSI
Float Valve		DIN
Float Operated Valve		ANSI
Needle Valve		ISA
Relief or Safety Valve		ISA
Piston Operated Valve		ISA
3-way Valves		ISA

DENOMINATION	SYMBOL	STANDARD
Auxiliary Valve		ANSI
Auxiliary Pressure Valve		ANSI
Blocking Valve		ANSI
Control Valve		ANSI
Discharge Valve		DIN
Instantaneous Opening Valve		ANSI
Valve with Male Thread		ANSI
Change Valve		DIN
Valve Usually Closed		ISA
Discharge Valve		DIN
Pressure Reducing Valve		DIN
Quick Closing Valve		ANSI
Flow Valve with Connection for Hose		DIN
Current Operated Valve		ISA
Line or "Y" Filter		DIN
Tap		DIN
Angle Tap		DIN
3-way Tap		DIN
Valve with Male Thread		ANSI
Gas Meter		DIN
Hydrometer		DIN

DENOMINATION	SYMBOL	STANDARD
Filter		DIN
Drain		ANSI
Ejector		ISA
Siphon		ANSI
Discharge Funnel (exhaust)		DIN
Passage with Inspection Window		DIN
Sprinkler Hose		DIN
Condensation Water Collector		DIN
Condensation Water Conductor		DIN
Pressure Container (boiler)		DIN
Open Tank		DIN
Fixed Point		DIN
Pneumatic Flow Direction		ANSI
Hydraulic Flow Direction		ANSI
Lines in Transposition		ANSI
Junction Line		ANSI
Flexible Line		ANSI

DENOMINATION	SYMBOL	STANDARD
Piping		DIN
Piping with Insulation		DIN
Piping with Insulation		DIN
Hydrant		DIN
Underground Hydrant on the Pipe		DIN
Underground Hydrant Touching		DIN
Underground Hydrant Next to Pipe		DIN
Hydrant Above Ground On Pipe		DIN
Hydrant Above Ground Touching Pipe		DIN
Hydrant Above Ground Next to Pipe		DIN
Garden Hydrant On Pipe		DIN
Garden Hydrant Touching Pipe		DIN
Garden Hydrant Next to Pipe		DIN
Pressure Gauge		DIN
Thermometer		DIN
Counterweight		DIN
Float		DIN

Graphic Symbols for Hydraulic Diagrams

DENOMINATION	SYMBOL	STANDARD
Fitting for Hose		ISA
Fountain		DIN
Start of Process or System		ISA
End of Process or System		ISA
Liquid Flow		ISA
Gas Flow		ISA
Temperature		ISA
Pressure		ISA
Steam Purger		ISA
Purger		ISA
Ground Connection		DIN
Hydraulic Injector		DIN

DENOMINATION	SYMBOL	STANDARD
Breather		DIN
Discharge with Gate		DIN
Cleaning Box		DIN
Sand Collector		DIN
Sieve		ISA
Exhaust		DIN
Gas Lamp		DIN
Centrifugal Pump		ISA
Alternative Pump		ISA
Compressor		ISA
Furnace		ISA

Equivalence of Loss of Load of TUPY BSP Fittings in Meters of Galvanized Steel Pipes

NOMINAL DIAMETER	1/4	3/8	1/2	3/4	1	1 1/4	1 1/2	2	2 1/2	3	4	5	6
	0,23	0,35	0,47	0,70	0,94	1,17	1,41	1,88	2,35	2,82	3,76	4,70	5,64
	0,22	0,33	0,44	0,67	0,89	1,11	1,33	1,78	2,23	2,68			
		0,16	0,22	0,32	0,43	0,54	0,65	0,86	1,08	1,30	1,73	2,16	2,59
		0,61	0,81	1,22	1,63	2,03	2,44	3,25					
			0,27	0,41	0,55	0,68	0,82	1,04	1,37	1,64	2,18		
	0,16	0,24	0,32	0,48	0,64	0,79	0,95	1,27	1,59	1,91	2,54		
	0,25	0,34	0,50	0,67	0,84	1,01	1,35	1,68	2,02	2,69		4,04	
	0,10	0,15	0,20	0,30	0,41	0,51	0,61	0,81	1,02	1,22			
		0,43	0,65	0,86	1,08	1,30	1,73						
	0,04	0,06	0,08	0,12	0,17	0,21	0,25	0,33	0,41	0,50	0,66	0,83	0,99
	0,34	0,51	0,69	1,03	1,37	1,71	2,06	2,74	3,43	4,11	5,49	6,86	8,23
	0,42	0,62	0,83	1,25	1,66	2,08	2,50	3,33	4,16	4,99	6,65	8,32	9,98
		0,09	0,13	0,18	0,22	0,27	0,36	0,44	0,55	0,73			
		0,44	0,66	0,88	1,10	1,31	1,75	2,19	2,70	3,51			
	0,05	0,08	0,10	0,15	0,20	0,25	0,30	0,41	0,49	0,59			
	0,34	0,50	0,67	1,01	1,35	1,68	2,02	2,69	3,36	4,02			
		0,28											
		0,30											
	0,01	0,01	0,01	0,01	0,01	0,01	0,01	0,01	0,01	0,01	0,02	0,02	0,03
	0,01	0,01	0,01	0,01	0,01	0,01	0,01	0,01	0,01	0,01	0,01	0,01	

Special Conventions

DENOMINATION	REPRESENTATION
Piping with Varying Level	Horizontal pipe higher Horizontal pipe lower Trecho Vertical
Piping with Varying Level	Horizontal pipe higher Horizontal pipe lower Inclined Stretch
Vertical Branch Downwards	
Vertical Branch Upwards	
Horizontal Branch Upwards	

DENOMINATION	REPRESENTATION
Horizontal Branch Downwards	
Vertical Pipe Upwards	
Vertical Pipe Downwards	
Anchoring	

NOMINAL DIAMETER	1/2 - 1/2	1/2 - 1	1/2 - 1 1/2	3/4 - 3/4	3/4 - 1	3/4 - 1 1/2	1 - 1 1/2
	1,17	0,96	0,93	1,06	1,03	1,23	1,57

Values based upon tests made by the Department of Hydraulics and Sanitation of the Engineering School of São Carlos (SP).
Note: Valid only in conducting water at ambient temperature.

Equivalence of Loss of Load of TUPY BSP Fittings in Meters of Galvanized Steel Pipes

NOMINAL DIAMETER	$\frac{3}{8} \times \frac{1}{4}$	$\frac{1}{2} \times \frac{1}{4}$	$\frac{1}{2} \times \frac{3}{8}$	$\frac{3}{4} \times \frac{1}{4}$	$\frac{3}{4} \times \frac{3}{8}$	$\frac{3}{4} \times \frac{1}{2}$	$1 \times \frac{1}{8}$	$1 \times \frac{1}{2}$	$1 \times \frac{3}{4}$	$1 \frac{1}{4} \times \frac{1}{2}$	$1 \frac{1}{4} \times \frac{3}{4}$	$1 \frac{1}{4} \times 1$	$1 \frac{1}{2} \times \frac{1}{2}$	$1 \frac{1}{2} \times \frac{3}{4}$	$1 \frac{1}{2} \times 1$	$1 \frac{1}{2} \times 1 \frac{1}{4}$
	$2 \times \frac{1}{2}$	$2 \times \frac{3}{4}$	2×1	$2 \times 1\frac{1}{4}$	$2 \times 1\frac{1}{2}$	$2\frac{1}{2} \times 1$	$2\frac{1}{2} \times 1\frac{1}{4}$	$2\frac{1}{2} \times 1\frac{1}{2}$	$2\frac{1}{2} \times 2$	3×1	$3 \times 1\frac{1}{4}$	$3 \times 1\frac{1}{2}$	3×2	$3 \times 2\frac{1}{2}$	4×2	4×3

	0,05	0,06	0,07		0,09	0,10		0,11	0,14	0,13	0,14	0,17		0,15	0,17	0,21	
				0,20	0,23	0,28		0,25	0,29	0,35		0,30	0,34	0,42	0,46	0,56	
	0,31	0,30	0,49		0,49	0,59	0,44	0,68	0,95	0,40	0,56	0,71	0,31	0,53	0,79	1,22	
	0,19	0,31	0,46	0,78	1,00	0,42	0,71	1,02	1,98	0,34	0,62	0,84	1,29	2,16			
	0,10	0,16	0,14	0,22	0,23	0,24		0,24	0,24	0,22	0,19	0,29	0,26	0,24	0,20		
	0,34		0,36	0,40	0,43	0,28	0,33	0,36	0,39		0,65	0,69	0,75				
	0,24			0,45		0,45	0,59		0,49	0,84		0,50	0,55		0,65	0,73	0,86
										1,63							
	0,32	0,20	0,21		0,20	0,27		0,23	0,19		0,32	0,34			0,36	0,29	
	0,11	0,18	0,18		0,26	0,32	0,30	0,32	0,29	0,33	0,43	0,16		0,53	0,27	0,12	
				0,30	0,35	0,38		0,44	0,48	0,64		0,71	0,70	0,71			
	0,26	0,24	0,30		0,24	0,44		0,41	0,41	0,28	0,34	0,41		0,37	0,34	0,27	
				0,52	0,60	0,64		0,51	0,65	0,89		0,64	0,77	0,86			

Values based upon tests made by the Department of Hydraulics and Sanitation of the Engineering School of São Carlos (SP).
Note: Valid only in conducting water at ambient temperature.

Loss of Load in Galvanized Steel Pipes

Nominal Diameter	Piping Outlet	Normal Inlet	Edge Inlet	Foot Valves & Sieve Open		Open Angle Valves		Open Globe Valves		Slide Valves		Open Angle Valves		Retaining Valve	
				Horizontal	Vertical	Horizontal	Vertical	Horizontal	Vertical	Horizontal	Vertical	Horizontal	Vertical	Horizontal	Vertical
$\frac{1}{2}$		0,4	0,2	0,4	0,1	4,9	2,6	3,6	1,1	5,6	10,0	2,7	4,0	2,048	4,70
$\frac{3}{4}$		0,5	0,2	0,5	0,1	6,7	3,6	5,6	1,6	7,3	11,3	6,7	8,4	2,219	5,95
1		0,7	0,3	0,7	0,2	8,2	4,6	7,3	2,1	11,3	21,0	10,0	17,0	2,390	6,20
$1\frac{1}{4}$		0,9	0,4	0,9	0,2	11,3	5,6	10,0	2,7	11,3	26,0	13,0	20,0	6,3	9,7
$1\frac{1}{2}$		1,0	0,5	1,0	0,3	13,4	6,7	11,6	3,2	13,4	30,0	10,8	21,565	9,50	10,11
2		1,5	0,7	1,5	0,4	17,4	8,5	14,0	4,2	17,4	34,0	12,0	22,700	10,00	12,04
$2\frac{1}{2}$		1,9	0,9	1,9	0,4	21,0	10,0	17,0	5,2	21,0	39,0	13,30	23,835	10,50	13,27
3		2,2	1,1	2,2	0,5	26,0	13,0	20,0	6,3	26,0	45,0	14,31	24,970	11,00	14,31
4		3,2	1,6	3,2	0,7	34,0	17,0	23,0	8,4	34,0	52,0	15,60	26,1050	11,50	15,60
5		4,0	2,0	4,0	0,9	43,0	21,0	30,0	10,4	43,0	59,0	16,1	39,0	18,1600	8,00
6		5,0	2,5	5,0	1,1	51,0	26,0	39,0	12,5	51,0	68,0	19,950	8,95	2,920	8,00

Equivalent Lengths in meters for Openings and Valves

Nominal Diameter	Piping Outlet	Normal Inlet	Edge Inlet	Foot Valves & Sieve Open		Open Angle Valves		Open Globe Valves		Slide Valves		Open Angle Valves		Retaining Valve	
				Horizontal	Vertical	Horizontal	Vertical	Horizontal	Vertical	Horizontal	Vertical	Horizontal	Vertical	Horizontal	Vertical
$\frac{1}{2}$		0,4	0,2	0,4	0,1	4,9	2,6	3,6	1,1	5,6	10,0	2,7	4,0	2,048	4,70
$\frac{3}{4}$		0,5	0,2	0,5	0,1	6,7	3,6	5,6	1,6	7,3	11,3	6,7	8,4	2,219	5,95
1		0,7	0,3	0,7	0,2	8,2	4,6	7,3	2,1	11,3	21,0	10,0	17,0	2,390	6,20
$1\frac{1}{4}$		0,9	0,4	0,9	0,2	11,3	5,6	10,0	2,7	11,3	26,0	13,0	20,0	6,3	9,7
$1\frac{1}{2}$		1,0	0,5	1,0	0,3	13,4	6,7	11,6	3,2	13,4	30,0	10,8	21,565	9,50	10,11
2		1,5	0,7	1,5	0,4	17,4	8,5	14,0	4,2	17,4	34,0	12,0	22,700	10,00	12,04
$2\frac{1}{2}$		1,9	0,9	1,9	0,4	21,0	10,0	17,0	5,2	21,0</					

Equivalence between Nominal Diameters

US Standard System (in)	1/4	3/8	1/2	3/4	1	1 1/4	1 1/2	2	2 1/2	3	4	5	6
Metric System (mm)	8	10	15	20	25	32	40	50	65	80	100	125	150

Conversions

To Convert from	To	Multiply by
kgf/cm ²	lbf/in ²	14,223197
kgf/cm ²	bar	0,980665
kgf/cm ²	MPa	0,0980665
kgf/cm ²	atm	0,967842
kgf/cm ²	w.c.a.	10,0
kgf/cm ²	N/mm ²	0,0980665
lbf/pol ²	kgf/cm ²	0,07030768
lbf/pol ²	bar	0,06894414
lbf/pol ²	MPa	0,00689441
lbf/pol ²	atm	0,0680492
lbf/pol ²	w.c.a.	0,7030768
lbf/pol ²	N/mm ²	0,00689441
bar	kgf/cm ²	1,0197162
bar	lbf/in ²	14,5044963
bar	MPa	0,1
bar	atm	0,9869304
bar	w.c.a.	10,197162
bar	N/mm ²	0,1
MPa	kgf/cm ²	10,197162
MPa	lbf/in ²	145,044963
MPa	bar	10,0
MPa	atm	9,869304
MPa	w.c.a.	101,97162
MPa	N/mm ²	1,0

Note: Approximate values

w.c.a.	= water column meter (mH ₂ O)
atm	= atmosphere
Mpa	= Mega Pascal
N/mm ²	= Newton per square millimeter
lbf/in ²	= psi = pound force per square inch
mmHg	= mercury millimeter (torr)
kgf/cm ²	= kilogram force per square centimeter

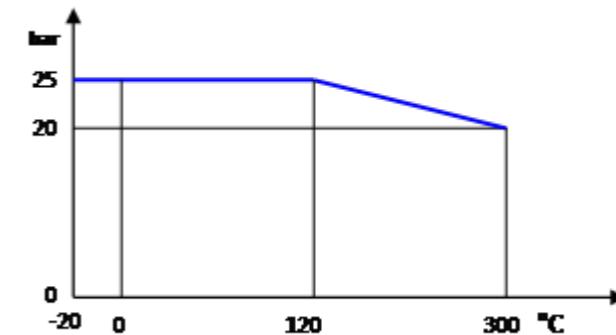
FITTINGS

BSP

PRESSURE TABLE

Service Pressures in Conducting Fluids (As per ABNT NBR 6943, ISO 49 and EN 10242)				Test Pressure
Temperature		-20 to 120°C	Between 120° to 300°C	Up to 300°C
Pressure	Ibf/in ² (psi)	360	Interpolated Value*	290
	(bar)	25		20
Nominal Diameter				1/4 a 6

*1 bar = 1,019716 kgf/cm² or 14,50377 psi



MANUFACTURING STANDARDS

The TUPY BSP fittings are produced in compliance with the specifications of standards ABNT NBR 6943, ISO 49 and EN 10242 and TUPY specifications. We point out that, depending upon the figure, some diameters may appear in one standard and not in another one.

MATERIAL

The TUPY BSP fittings are produced in black malleable iron, in compliance with standards ABNT NBR 6590, ISO 5922 and EN 1562.

THREAD

The sealing threads of the TUPY BSP fittings are produced in compliance with the specifications of standards ABNT NBR NM ISO 7-1 and the coupling threads as per ABNT NBR 8133 and ISO 228. Other thread types can be made to order.

INSPECTION

The TUPY BSP fittings are inspected so as to ensure the specifications of standards ABNT NBR 6943, ISO 49 and EN 10242.

MARCAS

The TUPY BSP fittings, when the dimensions allow, have recorded on them the brand TUPY® or ▲ and/or the identification of nominal diameter.

SURFACE PROTECTION

The TUPY BSP fittings are produced with a black finishing (non-toxic oil) or hot-dip galvanizing, as per ABNT NBR 6323, ISO 49 and EN 10242. Other special coatings (Epoxy paints, cataphoretic, hybrid, double galvanizing, etc.) can be furnished upon inquiry.

APPLICATIONS

The TUPY BSP fittings are applied for conducting water, gas, steam, oil and other hydraulic applications in general.

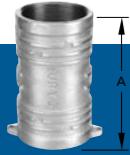
NOTE

TUPY S.A. reserves the right to introduce in its product lines the alterations which it deems appropriate.

The weights (g) appear in this price list are subject to alteration without prior notice.

For your safety demand that the fittings acquired are in compliance with the said standards and that tightness tests are executed before final use of the networks installed.

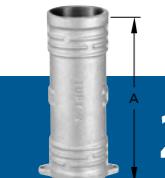




250

ADAPTOR FOR CONCRETE WATER-RESERVOIR 150mm

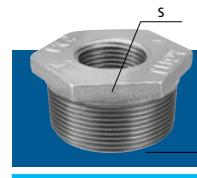
Nominal Diameter		Dimensions in mm		Unit. Weight
Inch	mm	A	Galv. g	
2	50	150	1107	
2½	65	150	1461	
3	80	150	1880	
4	100	150	2933	



250a

ADAPTERS FOR CONCRETE WATER-RESERVOIR 200mm

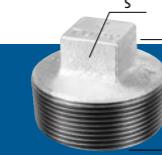
Nominal Diameter		Dimensions in mm		Unit. Weight
Inch	mm	A	Galv. g	
2	50	200	1425	
2½	65	200	1790	
3	80	200	2411	
4	100	200	3860	



241

REDUCING BUSH

Nominal Diameter		Dimensions in mm		Unit. Weight
Inch	mm	A	S (max)	Galv. g
5/8 x 1/4	10 x 8	20	19	17
1/2 x 1/4	15 x 8	24	22	35
1/2 x 3/8	15 x 10	24	22	27
3/4 x 1/4	20 x 8	26	30	72
3/4 x 3/8	20 x 10	26	30	63
3/4 x 1/2	20 x 15	26	30	50
1 x 3/8	25 x 10	29	36	107
1 x 1/2	25 x 15	29	36	102
1 x 3/4	25 x 20	29	36	86
1 1/4 x 1/2	32 x 15	31	46	200
1 1/4 x 3/4	32 x 20	31	46	183
1 1/4 x 1	32 x 25	31	46	146
1 1/2 x 1/2	40 x 15	31	50	261
1 1/2 x 3/4	40 x 20	31	50	236
1 1/2 x 1	40 x 25	31	50	201
1 1/2 x 1 1/4	40 x 32	31	50	124
2 x 1/2	50 x 15	35	65	412
2 x 3/4	50 x 20	35	65	405
2 x 1	50 x 25	35	65	416
2 x 1 1/4	50 x 32	35	65	352
2 x 1 1/2	50 x 40	35	65	288
2 1/2 x 1	65 x 25	40	80	622
2 1/2 x 1 1/4	65 x 32	40	80	644
2 1/2 x 1 1/2	65 x 40	40	80	604
2 1/2 x 2	65 x 50	40	80	500
3 x 1 1/2	80 x 40	44	95	921
3 x 2	80 x 50	44	95	969
3 x 2 1/2	80 x 65	44	95	642
4 x 2	100 x 50	51	120	1711
4 x 2 1/2	100 x 65	51	120	1752
4 x 3	100 x 80	51	120	1484
5 x 4	125 x 100	57	145	2049
6 x 4	150 x 100	58	175	3809
6 x 5	150 x 125	58	175	2765



291

PLUG, PLAIN

Nominal Diameter		Dimensions in mm		Unit. Weight
Inch	mm	H	S (max)	Galv. g
1/4	8	20	8	12
5/16	10	20	10	22
1/2	15	24	11	36
3/4	20	27	17	55
1	25	30	19	83
1 1/4	32	35	22	138
1 1/2	40	36	22	161
2	50	45	27	303
2 1/2	65	51	32	538
3	80	57	36	769
4	100	71	41	1548



90

ELBOW

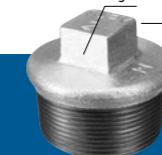
Nominal Diameter		Dimensions in mm		Unit. Weight
Inch	mm	A	Galv. g	
1/4	8	21	37	
5/16	10	25	70	
1/2	15	28	90	
3/4	20	33	138	
1	25	38	215	
1 1/4	32	45	328	
1 1/2	40	50	471	
2	50	58	714	
2 1/2	65	69	1138	
3	80	78	1730	
4	100	96	2875	
5	125	115	4630	
6	150	131	8157	



90R

ELBOW REDUCING

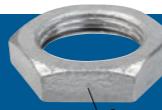
Nominal Diameter		Dimensions in mm		Unit. Weight
Inch	mm	A	B	Galv. g
5/16 x 1/4	10 x 8	23	23	48
1/2 x 1/4	15 x 8	25	25	82
1/2 x 3/8	15 x 10	26	26	80
3/4 x 3/8	20 x 10	28	28	129
3/4 x 1/2	20 x 15	30	31	118
1 x 1/2	25 x 15	32	34	146
1 x 3/4	25 x 20	35	36	180
1 1/4 x 3/4	32 x 20	36	41	263
1 1/4 x 1	32 x 25	40	42	280
1 1/2 x 3/4	40 x 20	39	44	306
1 1/2 x 1	40 x 25	42	46	370
2 x 1 1/2	50 x 32	46	48	428
2 x 1 1/2	50 x 40	52	55	624
2 1/2 x 2	65 x 50	61	66	1006



290

PLUGS, BEADED

Nominal Diameter		Dimensions in mm		Unit. Weight
Inch	mm	A	S (max)	Galv. g
1/4	8	27,5	8	22
5/16	10	28	10	37
1/2	15	33,5	11	48
3/4	20	36,5	17	87
1	25	41,5	19	148
1 1/4	32	46	22	212
1 1/2	40	48	22	264
2	50	56	27	429
2 1/2	65	63	32	707
3	80	68	36	1059



312

BACKNUT, RECESSED

Nominal Diameter		Dimensions in mm		Unit. Weight
Inch	mm	A	S	Galv. g

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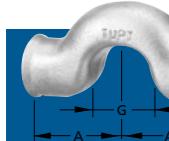
180 CROSSER

Nominal Diameter		Dimensions in mm		Unit. Weight
Inch	mm	A	Galv.g	
1/4	8	21	75	
3/8	10	25	108	
1/2	15	28	172	
3/4	20	33	235	
1	25	38	391	
1 1/4	32	45	618	
1 1/2	40	50	799	
2	50	58	1143	
2 1/2	65	69	1973	
3	80	78	2699	
4	100	97	4980	



60 RETURN BEND

Nominal Diameter		Dimensions in mm		Unit. Weight
Inch	mm	A	Galv.g	
1/2	15	38	176	
3/4	20	50	318	
1	25	64	547	
1 1/4	32	76	878	
1 1/2	40	89	1267	
2	50	102	1854	



85 CROSSOVER

Nominal Diameter		Dimensions in mm		Unit. Weight
Inch	mm	G	A	Galv.g
1/2 - 1/2	15 - 15	15	46	174
1/2 - 1	15 - 25	25	54	244
3/4 - 3/4	20 - 20	20	56	299
3/4 - 1	20 - 25	25	59	337



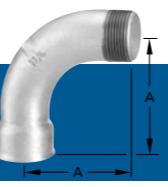
2 LONG SWEEP BEND

Nominal Diameter		Dimensions in mm		Unit. Weight
Inch	mm	A	Galv.g	
3/8	10	48	105	
1/2	15	55	151	
3/4	20	69	255	
1	25	85	459	
1 1/4	32	105	726	
1 1/2	40	116	890	
2	50	140	1619	
2 1/2	65	176	2434	
3	80	205	4183	
4	100	260	6558	



2a SHORT BEND

Nominal Diameter		Dimensions in mm		Unit. Weight
Inch	mm	A	Galv.g	
1/2	15	45	132	
3/4	20	50	225	
1	25	63	324	
1 1/4	32	76	664	
1 1/2	40	85	684	
2	50	102	1212	



1 LONG SWEEP BEND

Nominal Diameter		Dimensions in mm		Unit. Weight
Inch	mm	A	H	Galv.g
1/4	8	40	36	51
3/8	10	48	42	101
1/2	15	55	48	129
3/4	20	69	60	211
1	25	85	75	363
1 1/4	32	105	95	639
1 1/2	40	116	105	800
2	50	140	130	1336
2 1/2	65	176	165	2215
3	80	205	190	3132
4	100	260	245	5737



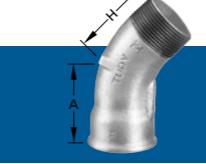
41 45° LONG SWEEP BEND

Nominal Diameter		Dimensions in mm		Unit. Weight
Inch	mm	A	Galv.g	
1/2	15	36	115	
3/4	20	43	186	
1	25	51	298	
1 1/4	32	64	512	
1 1/2	40	68	712	
2	50	81	1183	



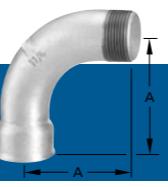
3 LONG SWEEP BEND

Nominal Diameter		Dimensions in mm		Unit. Weight
Inch	mm	A	Galv.g	
3/8	10	42	66	
1/2	15	48	104	
3/4	20	60	178	
1	25	75	352	
1 1/4	32	95	581	
1 1/2	40	105	734	
2	50	130	1370	
2 1/2	65	165	2221	
3	80	190	3118	
4	100	245	5562	
6	150	290	14336	



40 45° LONG SWEEP BEND

Nominal Diameter		Dimensions in mm		Unit. Weight
Inch	mm	A	H	Galv.g
3/8	10	30	24	62
1/2	15	36	30	108
3/4	20	43	36	182
1	25	51	42	273
1 1/4	32	64	54	423
1 1/2	40	68	58	537
2	50	81	70	982
2 1/2	65	99	86	1322
3	80	113	100	2073



1a SHORT BEND

Nominal Diameter		Dimensions in mm		Unit. Weight
Inch	mm	A	H	Galv.g
1/4	8	40	36	51
3/8	10	48	42</	



529a EXTENSION SOCKET

Nominal Diameter		Dimensions in mm		Unit. Weight
Inch	mm	C	Galv. g	
1/2	15	43	66	
3/4	20	48	102	
1	25	55	165	
1 1/4	32	60	247	

Nominal Diameter		Dimensions in mm		Unit. Weight
Inch	mm	C	Galv. g	
1/2 - 60	15 - 60	60	84	
3/4 - 70	20 - 70	70	139	
3/4 - 90	20 - 90	90	168	

Nominal Diameter		Dimensions in mm		Unit. Weight
Inch	mm	A	Galv. g	
3/8 x 1/4	10 x 8	35	36	
1/2 x 1/4	15 x 8	43	61	
1/2 x 3/8	15 x 10	43	60	
3/4 x 3/8	20 x 10	48	91	
3/4 x 1/2	20 x 15	47	94	
1 x 1/2	25 x 15	56	141	
1 x 3/4	25 x 20	53	149	
1 1/4 x 3/4	32 x 20	57	191	
1 1/4 x 1	32 x 25	57	209	
1 1/2 x 3/4	40 x 20	59	215	
1 1/2 x 1	40 x 25	59	246	
1 1/2 x 1 1/4	40 x 32	59	256	
2 x 1	50 x 25	68	434	
2 x 1 1/4	50 x 32	68	368	
2 x 1 1/2	50 x 40	68	422	
2 1/2 x 2	65 x 50	75	661	
3 x 2	80 x 50	83	912	
3 x 2 1/2	80 x 65	83	923	

Nominal Diameter		Dimensions in mm		Unit. Weight
Inch	mm	H	S (max)	Galv. g
1/4	8	36	19	31
3/8	10	38	22	40
1/2	15	44	27	68
3/4	20	47	32	108
1	25	53	41	178
1 1/4	32	57	50	256
1 1/2	40	59	55	332
2	50	68	70	585
2 1/2	65	75	85	953
3	80	83	100	946
4	100	95	130	1888
5	125	114	150	3192
6	150	110	180	3930



245 HEXAGON NIPPLE REDUCING

Nominal Diameter		Dimensions in mm		Unit. Weight
Inch	mm	H	S (max)	Galv. g
3/8 x 1/4	10 x 8	38	19	33
1/2 x 1/4	15 x 8	44	22	46
1/2 x 3/8	15 x 10	44	22	51
3/4 x 3/8	20 x 10	47	30	83
3/4 x 1/2	20 x 15	47	30	94
1 x 1/2	25 x 15	56	141	
1 x 3/4	25 x 20	53	149	
1 1/4 x 3/4	32 x 20	57	191	
1 1/4 x 1	32 x 25	57	209	
1 1/2 x 3/4	40 x 20	59	215	
1 1/2 x 1	40 x 25	59	246	
1 1/2 x 1 1/4	40 x 32	59	256	
2 x 1	50 x 25	68	434	
2 x 1 1/4	50 x 32	68	368	
2 x 1 1/2	50 x 40	68	422	
2 1/2 x 2	65 x 50	75	661	
3 x 2	80 x 50	83	912	
3 x 2 1/2	80 x 65	83	923	



130 TEE

Nominal Diameter		Dimensions in mm		Unit. Weight
Inch	mm	A	Galv. g	
1/4	8	21	70	
3/8	10	25	87	
1/2	15	28	138	
3/4	20	33	212	
1	25	38	326	
1 1/4	32	45	464	
1 1/2	40	50	588	
2	50	58	902	
2 1/2	65	69	1587	
3	80	78	2065	
4	100	96	4182	
5	125	115	6051	
6	150	131	10740	



165

45° TEE

Nominal Diameter		Dimensions in mm		Unit. Weight
Inch	mm	A	B	Galv. g
1/2	15	59	43	150
3/4	20	70	52	239
1	25	83	61	403
1 1/4	32	100	74	591
1 1/2	40	111	83	776
2	50	131	100	1292
2 1/2	65	161	123	1784
3	80	184	145	2903
4	100	228	182	5020



132

TWIN ELBOW

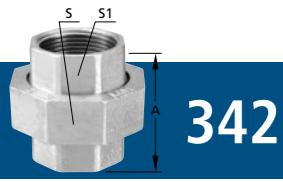
Nominal Diameter		Dimensions in mm		Unit. Weight
Inch	mm	A	Galv. g	
1/2	15	45	194	
3/4	20	50	289	



130R

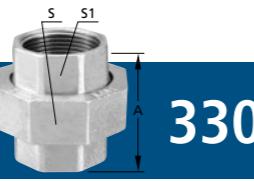
TEE REDUCING

Nominal Diameter		Dimensions in mm		Unit. Weight
Inch	mm	B	A	Galv. g
1	2	3	1	23
3/8 x 1/4 x 1/2	15 x 8 x 15	24	24	96
1/2 x 3/8 x 1/2	15 x 10 x 15	26	26	129</td



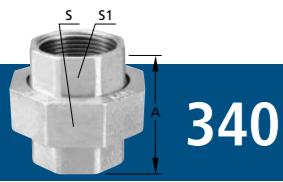
342 UNION, BRASS TAPER SEAT

Nominal Diameter		Dimensions in mm			Unit. Weight
Inch	mm	A	S (max)	S1	Galv. g
1/4	8	42	27	17	104
5/16	10	45	32	20	133
1/2	15	48	41	25	196
3/4	20	52	50	32	293
1	25	58	55	39	363
1 1/4	32	65	70	49	635
1 1/2	40	70	75	55	766
2	50	78	90	69	1211
2 1/2	65	85	110	85	1761
3	80	95	130	98	2643
4	100	110	150	124	3680
5	125	122	183	149	5524
6	150	132	226	179	10132



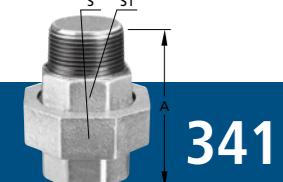
330 UNION, FLAT SEAT

Nominal Diameter		Dimensions in mm			Unit. Weight
Inch	mm	A	S (max)	S1	Galv. g
1/4	8	42	27	17	96
5/16	10	45	32	20	92
1/2	15	48	41	25	178
3/4	20	52	50	32	286
1	25	58	55	39	375
1 1/4	32	65	70	49	597
1 1/2	40	70	75	55	699
2	50	78	90	69	1099
2 1/2	65	85	110	85	1754
3	80	95	130	98	2555
4	100	110	150	124	3325



340 UNION, TAPER SEAT

Nominal Diameter		Dimensions in mm			Unit. Weight
Inch	mm	A	S (max)	S1	Galv. g
1/4	8	42	27	17	96
5/16	10	45	32	20	125
1/2	15	48	41	25	172
3/4	20	52	50	32	272
1	25	58	55	39	365
1 1/4	32	65	70	49	619
1 1/2	40	70	75	55	751
2	50	78	90	69	1136
2 1/2	65	85	110	85	1776
3	80	95	130	98	2607
4	100	110	150	124	3494



341 UNION, TAPER SEAT

Nominal Diameter		Dimensions in mm			Unit. Weight
Inch	mm	A	S (max)	S1	Galv. g
5/16	10	58	32	20	148
1/2	15	66	41	25	211
3/4	20	72	50	32	333
1	25	80	55	39	458
1 1/4	32	90	70	49	793
1 1/2	40	95	75	55	935
2	50	106	90	69	1423
2 1/2	65	118	110	85	2581
3	80	130	130	98	2961
4	100	150	150	124	4069



96 UNION ELBOW,
TAPER SEAT

Nominal Diameter		Dimensions in mm			Unit. Weight	
Inch	mm	A	B	S (max)	S1	Galv. g
1/2	15	58	28	41	25	233
5/8	20	62	33	50	32	349
1	25	72	38	55	39	497
1 1/4	32	82	45	70	49	820
1 1/2	40	90	50	75	55,5	1016
2	50	100	58	90	69	1492
2 1/2	65	127,5	69	110	85	2488
3	80	144	78	130	98	3652



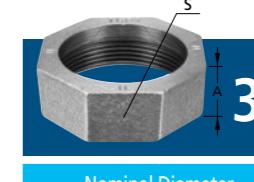
98 UNION ELBOW,
TAPER SEAT

Nominal Diameter		Dimensions in mm			Unit. Weight	
Inch	mm	A	B	S (max)	S1	Galv. g
1/2	15	76	28	41	25	274
5/8	20	82	33	50	32	405
1	25	94	38	55	39	582
1 1/4	32	107	45	70	49	910
1 1/2	40	115	50	75	55,5	1218
2	50	128	58	90	69	1788
2 1/2	65	160	69	110	85	2892
3	80	179	78	130	98	4380



370 UNION BUSH

Nominal Diameter		Dimensions in mm			Unit. Weight
Inch	mm	A	S	Galv. g	
5/16	10	23,0	20	37	
1/2	15	24,5	25	54	
3/4	20	26,5	32	100	
1	25	29,0	39	141	
1 1/4	32	32,5	49	255	
1 1/2	40	35,0	55,5	236	
2	50	39,5	69	419	
2 1/2	65	44,0	85	713	
3	80	48,5	98	844	
4	100	55,5	124	1376	



374 UNION NUT

Nominal Diameter		Dimensions in mm			Unit. Weight
Inch	mm	A	S (max)	Galv. g	
1/4	8	16	32	42	
5/16	10	17	36	58	
1/2	15	18	41	78</	

Advantages of the TUPY Unions

1

IDEAL GEOMETRY - The sealing occurs through perfect localization of a spherical zone with an extra wide cone seat.



2

BRONZE SEAT - A high quality bronze ring ensures the perfect fitting of the contact areas.

3

DURABILITY - The TUPY unions can be installed and reinstalled, time after time, with absolute safety against leakages. These features are ensured by the ideal shape of the seat and the care dedicated to their manufacture.

4

RIGIDITY - The unit, once mounted, is practically unbreakable as its components were ingeniously planned.

5

RESISTANCE - Each component of the union withstands the forces of the piping, vibrations and abuses in applying tools, as they are made of iron; superior quality malleable iron.

6

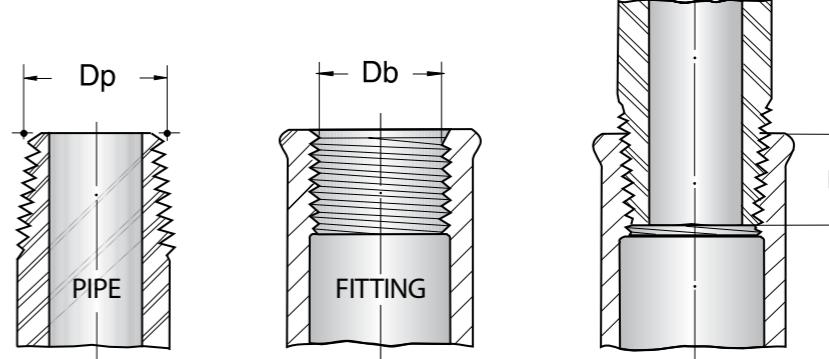
PERFORMANCE - The free passage, without pockets or protuberances, allows a uniform flow, avoiding harmful deposits.

Among the extremely wide and varied line of fittings, TUPY S.A. also makes available to the consumer market seven different types of Union.

- UNIONS WITH FLAT SEAT
- UNIONS WITH MF FLAT SEAT
- UNIONS WITH IRON CONIC SEAT
- UNIONS WITH MF IRON CONIC SEAT

- UNIONS WITH BRONZE/IRON CONIC SEAT
- ELBOW UNIONS WITH IRON CONIC SEAT
- ELBOW UNIONS WITH MF IRON CONIC SEAT

Identification of Nominal Diameters from Actual BSP Thread Dp and Db Diameters

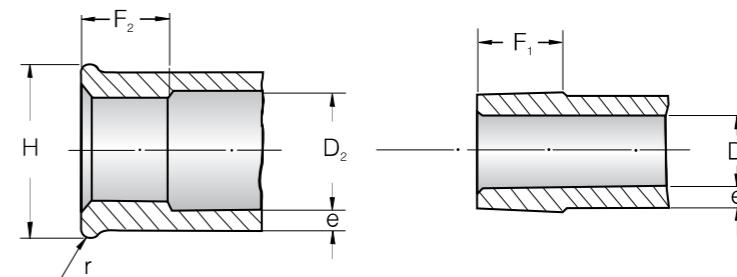


Dimensions in mm

NOMINAL	1/4	3/8	1/2	3/4	1	1 1/4	1 1/2	2	2 1/2	3	4	6
Dp	12,8	16,3	20,4	25,9	32,6	41,1	47,0	58,6	74,1	86,6	111,4	162,0
Db	11,5	15,0	18,6	24,1	30,3	39,0	44,9	56,7	72,2	84,9	110,1	160,9
K	9,7	10,1	13,2	14,5	16,8	19,1	19,1	23,4	26,7	29,8	35,8	1040,1

K = Useful Thread Length

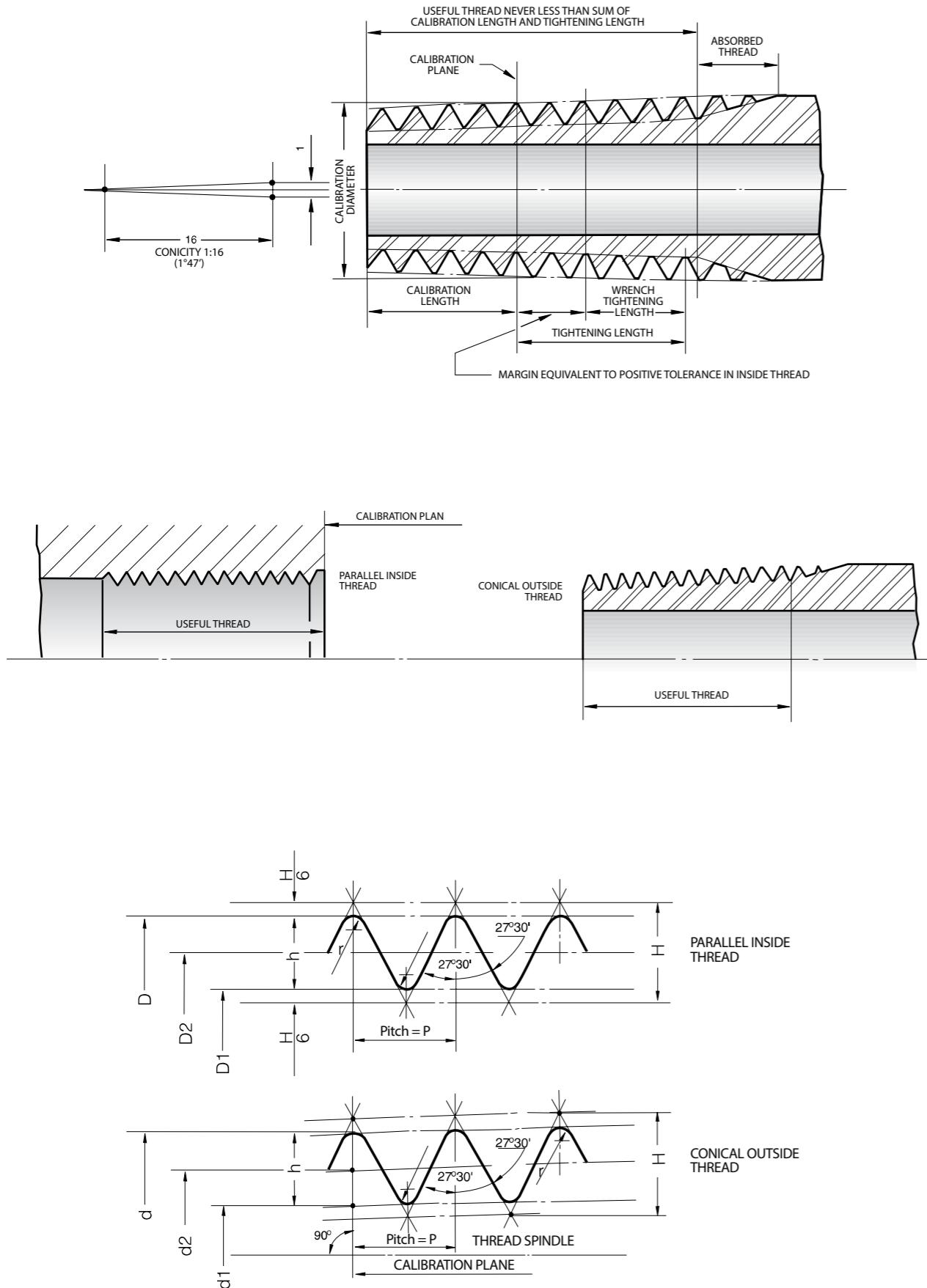
Dimensions of BSP Fittings



Dimensions in mm

NOMINAL DIAMETER	F ₁	F ₂	D ₁	D ₂	E	r	H
8 (1/4)	11,0	9,7	7,6	11,6	2,0	2,0	19,8
10 (3/8)	11,5	10,1	10,9	15,4	2,0	2,0	23,8
15 (1/2)	15,0	13,2	14,8	19,6	2,0	2,5	28,6
20 (5/8)	16,5	14,5	19,4	25,0	2,2	2,5	34,8
25 (1)	19,0	16,8	25,4	31,4	2,4	3,0	42,6
32 (1 1/4)	21,5	19,1	33,5	40,4	2,8	3,0	52,0
40 (1 1/2)	21,5	19,1	39,0	46,2	3,0	3,5	58,6
50 (2)	26,0	23,4	50,2	58,2	3,2	3,5	71,6
65 (2 1/2)	30,5	26,7	65,3	73,8	3,4	4,0	88,0
80 (3)	33,5	29,8	76,8	86,6	3,8	4,0	102,4
100 (4)	39,5	35,8	99,6	111,8	4,4	4,5	130,6
125 (5)	43,6	40,1	122,8	137,2	5,2	4,5	160
150 (6)	43,6	40,1	146,2	162,6	6,0	6,0	188,4

As per ABNT NBR NM ISO 7-1



As per ABNT NBR NM ISO 7-1

Designation (DN)	Qty. of fillets per 25,4 (mm)	Pitch (mm)	Fillet height (mm)	Diameter in Calibration plane (basic)				Length & tolerance of calibration of outside thread				Position of calibration plane in inside thread				Minimum length of useful thread at end of pipe (B) Tightening length				
				Greater $d = D$	Side $d_1 = D_1$	Less $d_2 = D_2$	Basic	Separation \pm	Maximum	Minimum	Turns	Basic	Maximum	Minimum	\approx	Turns	Basic	Maximum	Minimum	\approx
1/6	28	0,907	0,581	7,723	7,142	6,561	4,0	0,9	1	4,9	3,1	1,1	1 1/4	6,5	7,4	5,6	2 3/4			
1/8	28	0,907	0,581	9,728	9,147	8,566	4,0	0,9	1	4,9	3,1	1,1	1 1/4	6,5	7,4	5,6	2 3/4			
1/4	19	1,337	0,856	13,157	12,301	11,445	6,0	1,3	1	7,3	4,7	1,7	1 1/4	9,7	11,0	8,4	3 7/8			
3/8	19	1,337	0,856	16,662	15,806	14,950	6,4	1,3	1	7,7	5,1	1,7	1 1/4	10,1	11,4	8,8	3 7/8			
1/2	14	1,814	1,162	20,955	19,793	18,631	8,2	1,8	1	10,0	6,4	2,3	1 1/4	13,2	15,0	11,4	5 1/2			
5/8	14	1,814	1,162	26,441	25,279	24,117	9,5	1,8	1	11,3	7,7	2,3	1 1/4	14,5	16,3	12,7	5 1/2			
1	11	2,309	1,479	33,249	31,770	30,291	10,4	2,3	1	12,7	8,1	2,9	1 1/4	16,8	19,1	14,5	6 1/2			
1 1/4	11	2,309	1,479	41,910	40,431	38,952	12,5	2,3	1	15,0	10,4	2,9	1 1/4	19,1	21,4	16,8	6 1/2			
1 1/2	11	2,309	1,479	47,803	46,324	44,845	12,7	2,3	1	15,0	10,4	2,9	1 1/4	19,1	21,4	16,8	6 1/2			
2	11	2,309	1,479	59,614	58,135	56,656	15,9	2,3	1	18,2	13,6	2,9	1 1/4	23,4	25,7	21,1	7 1/2			
2 1/2	11	2,309	1,479	75,184	73,705	72,226	17,5	3,5	1 1/2	21,0	14,0	3,5	1 1/2	26,7	30,2	23,2	9,2	4		
3	11	2,309	1,479	87,884	86,405	84,926	20,6	3,5	1 1/2	24,1	17,1	3,5	1 1/2	29,8	33,3	26,3	9,2	4		
4	11	2,309	1,479	113,030	111,551	110,072	25,4	3,5	1 1/2	28,9	21,9	3,5	1 1/2	35,8	39,3	32,3	10,4	4 1/2		
5	11	2,309	1,479	138,430	136,951	135,472	28,6	3,5	1 1/2	32,1	25,1	3,5	1 1/2	40,1	43,6	36,6	11,5	5		
6	11	2,309	1,479	163,830	162,351	160,872	28,6	3,5	1 1/2	32,1	25,1	3,5	1 1/2	40,1	43,6	36,6	11,5	5		

(A) The separations in the parallel thread diameters shall be 1/16 of the values of column 13.

(B) The design of parts with an inside thread shall allow the fitting of pipe spigots for the lengths given in column 16; the length of the useful thread shall not be less than 80% of the values of column 17.

**Carbon Steel Pipes for Thread Whitworth Gas
for ordinary uses in Conducting Fluids
ABNT NBR 5580**

With or without Seam - Galvanized or Black

THREAD : BSP as per ABNT NBR NM ISO 7-1

CLASS : The specification foresees 3 classes:
HEAVY (P)
MEDIUM (M)
LIGHT (L)

MATERIAL : Carbon steel

TEMPERATURE : Advised up to 200°C

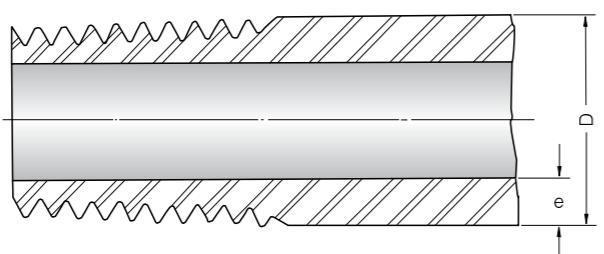
BENDING : They are not suited to being bent or forming coils.

TOLERANCES : In the wall thickness of pipes of classes Light, Medium and Heavy variances are allowed for lack (-) which do not exceed 12.5%.

ZINC LAYER : The weight of the zinc coating shall be equal to or greater than 450 g/m² (63 microns).

HYDROSTATIC PRESSURE : The hydrostatic pressure test foreseen is 50 kgf/cm². Pipes above 2" shall be struck near the two ends with a hammer of approximately 1kg.

DIMENSIONS : See tables on following page.



NOTE:

TUPY S.A. does not manufacture carbon steel pipes.
The data concerning these pipes was placed in this catalog merely for informative purposes.

Dimensions of steel pipes, of class Heavy (P), with and without seam (similar EN 10255)

Outside Diameter (mm)	Nominal Diameter		Outside Diameter D (mm)		Wall Thickness e (mm)	Theoretic Mass of Black Pipe (kg/m)
	(mm)	(in)	maximum	minimum		
10,2	6	1/8	10,6	9,8	2,65	0,49
13,5	8	1/4	14,0	13,2	3,00	0,77
17,2	10	3/8	17,5	16,7	3,00	1,05
21,3	15	1/2	21,8	21,0	3,00	1,35
26,9	20	3/4	27,3	26,5	3,00	1,76
33,7	25	1	34,2	33,3	3,75	2,77
42,4	32	1 1/4	42,9	42,0	3,75	3,57
48,3	40	1 1/2	48,8	47,9	3,75	4,12
60,3	50	2	60,8	59,7	4,50	6,19
76,1	65	2 1/2	76,6	75,3	4,50	7,95
88,9	80	3	89,5	88,0	4,50	9,37
101,6	90	3 1/2	102,1	100,4	5,00	11,91
114,3	100	4	115,0	113,1	5,60	15,01
139,7	125	5	140,8	138,5	5,60	18,52
165,1	150	6	166,5	163,9	5,60	22,03

Dimensions of steel pipes, of class Medium (M), with and without seam (similar EN 10255)

Outside Diameter (mm)	Nominal Diameter		Outside Diameter D (mm)		Wall Thickness e (mm)	Theoretic Mass of Black Pipe (kg/m)
	(mm)	(in)	maximum	minimum		
10,2	6	1/8	10,6	9,8	2,00	0,40
13,5	8	1/4	14,0	13,2	2,25	0,62
17,2	10	3/8	17,5	16,7	2,25	0,83
21,3	15	1/2	21,8	21,0	2,65	1,21
26,9	20	3/4	27,3	26,5	2,65	1,59
33,7	25	1	34,2	33,3	3,35	2,27
42,4	32	1 1/4	42,9	42,0	3,35	2,92
48,3	40	1 1/2	48,8	47,9	3,35	3,71
60,3	50	2	60,8	59,7	3,75	4,71
76,1	65	2 1/2	76,6	75,3	3,75	6,69
88,9	80	3	89,5	88,0	4,05	7,87
101,6	90	3 1/2	102,1	100,4	4,25	10,20
114,3	100	4	115,0	113,1	4,50	12,18
139,7	125	5	140,8	138,5	5,00	16,61
165,1	150	6	166,5	163,9	5,30	20,89

Dimensions of steel pipes, of class Light (L), with and without seam (similar EN 10255)

Outside Diameter (mm)	Nominal Diameter		Outside Diameter D (mm)		Wall Thickness e (mm)	Theoretic Mass of Black Pipe (kg/m)
	(mm)	(in)	maximum	minimum		
10,2	6	1/8	10,4	9,7	1,80	0,37
13,5	8	1/4	13,9	13,2	2,00	0,56
17,2	10	3/8	17,4	16,7	2,00	0,75
21,3	15	1/2	21,7	21,0	2,25	1,05
26,9	20	3/4	27,1	26,4	2,25	1,36
33,7	25	1	34,0	33,2	2,65	2,03
42,4	32	1 1/4	42,7	41,9	2,65	2,63
48,3	40	1 1/2	48,6	47,8	3,00	3,35
60,3	50	2	60,7	59,6	3,00	4,24
76,1	65	2 1/2	76,3	75,2	3,35	6,01
88,9	80	3	89,4	87,9	3,35	7,07
101,6	90	3 1/2	101,8	100,3	3,35	9,05
114,3	100	4	114,9	113,0	3,75	10,22

NPT Fittings - MEDIUM PRESSURE for applications up to 300 lb at ambient temperature.

PRESSURE TABLE

	Maximum Service Pressures (As per ASME B 16.3)	Maximum Service Pressures for Union (As per ASME B 16.39)	Maximum Service Pressures (As per ABNT NBR 6925)
Temperature °C	Nominal Diameter	Nominal Diameter	Nominal Diameter
	1/4 a 6 lb (psi)	1/4 a 4 lb (psi)	1/4 a 6 MPa
-29 a 66	300	300	2,1
93	265	265	1,8
121	225	225	1,5
149	185	185	1,3
177	150	150	1,0
204	-	110	0,7
232	-	75	0,5

Note: 1 bar \equiv 14,5 psi • 1 bar \equiv 1 kgf/cm² • 1 bar = 0,1 MPa • 1 psi = 1 lbf/in²

MANUFACTURING STANDARDS

The **TUPY** NPT-Medium Pressure fittings are produced in compliance with the specifications of standards ABNT NBR 6925 and ASME B 16.3, except for the Reducing Bushings and Plugs which obey standard ASME B 16.14 and unions ASME B 16.39.

We point out that, depending upon the figure, certain diameters may appear in one standard but not in another one.

MATERIAL

The **TUPY** NPT-Medium Pressure fittings are produced in compliance with standards ABNT NBR 6590 and ASTM A-197M in black malleable iron.

THREAD

The sealing threads of the **TUPY** NPT-Medium Pressure fittings are produced in compliance with the specifications of standards ABNT NBR 12912 and ANSI B 1.20.1. (conic outside and inside thread). Other types produced upon inquiry.

INSPECTION

The **TUPY** NPT-Medium Pressure fittings are inspected so as to ensure the specifications of standards ABNT NBR 6925, ASME B 16.3, ASME B 16.14 and ASME B 16.39.

BRANDS

The **TUPY** NPT - Medium Pressure fittings when the dimensions allow, are identified as follows:

- **TUPY®** Brand (except in the rated diameters of 3/8 x 1/4 to 3/4 x 1/2 in the Reduction Bushings and 1/4 and 3/8 in the Plugs).
- The nominal diameter.
- The monogram **MI** (Malleable Iron) except in the Reducing Bushings and Plugs.
- The number **150** (Indicative of class), except in the Reducing Bushings and Plugs.
- The name **BRAZIL** (Indicative of producing country).
- The monogram **NPT** (National Pipe Taper), only in the Reducing Bushings and Plugs
- The monogram **UL** (Underwriters Laboratories Inc.)

SURFACE PROTECTION

The **TUPY** NPT-Medium Pressure fittings are produced with black finishing (non-toxic oil) or hot-dip galvanizing, as per ABNT NBR 6323 and ASTM A-153. Other special coatings (Epoxy paints, cataphoretic, hybrid, double galvanizing, etc.) can be furnished upon inquiry.

APPLICATIONS

The **TUPY** NPT-Medium Pressure fittings are applied for conducting liquids, gases and vapors.

NOTE

TUPY S.A. reserves the right to introduce in its product lines the alterations which it deems appropriate.

The weights (g) appear in this price list are subject to alteration without prior notice.

For your safety demand that the fittings acquired are in compliance with the said standards and that tightness tests are executed before final use of the networks installed.





1002R REDUCING BUSH

Nominal Diameter		Dimensions in mm		Unit. Weight
Inch	mm	D (min)	S (min)	Galv. g
5/8 x 1/4	10 x 8	16,3	17,3	16
1/2 x 1/4	15 x 8	19	22,1	36
1/2 x 3/8	15 x 10	19	22,1	26
3/4 x 3/8	20 x 10	21,6	29,2	63
3/4 x 1/2	20 x 15	21,6	29,2	50
1 x 1/2	25 x 15	25,5	36,1	107
1 x 3/4	25 x 20	25,5	36,1	84
1 1/4 x 1/2	32 x 15	31	34	160
1 1/4 x 3/4	32 x 20	27,4	44,7	178
1 1/4 x 1	32 x 25	27,4	44,7	145
1 1/2 x 3/4	40 x 20	30,5	41,4	211
1 1/2 x 1	40 x 25	29	50,8	232
1 1/2 x 1 1/4	40 x 32	29	50,8	151
2 x 1	50 x 25	32,8	49,5	338
2 x 1 1/4	50 x 32	31	63	376
2 x 1 1/2	50 x 40	31	63	324
2 1/2 x 1 1/2	65 x 40	38,4	68,1	581
2 1/2 x 2	65 x 50	36,6	75,7	475
3 x 2	80 x 50	40,9	83,3	866
3 x 2 1/2	80 x 65	38,9	98	815
4 x 2 1/2	100 x 65	46,2	98	1421
4 x 3	100 x 80	43,7	117,3	1461
6 x 4	150 x 100	60	147,1	3595



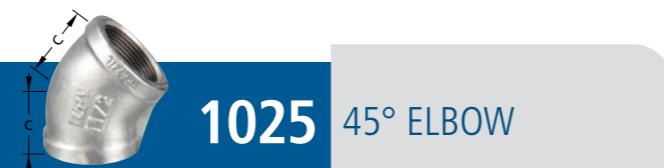
1010 PLUG, PAIN

Nominal Diameter		Dimensions in mm		Unit. Weight
Inch	mm	B	S	Galv. g
1/4	8	20	9,5	16
3/8	10	21	11	26
1/2	15	26	14,3	50
3/4	20	28	16	72
1	25	34	20,7	135
1 1/4	32	36	23,8	197
1 1/2	40	38	28,6	270
2	50	42	33,4	438
2 1/2	65	54	38	768
3	80	58	43	1127
4	100	66	50	2152
6	150	76	70	5355



1015 ELBOW

Nominal Diameter		Dimensions in mm		Unit. Weight
Inch	mm	A	Galv. g	
1/2	15	28,5	130	
3/4	20	33,3	204	
1	25	38,1	308	
1 1/4	32	44,5	486	
1 1/2	40	49,3	618	
2	50	57,2	948	
2 1/2	65	68,6	1822	
3	80	78,2	2496	
4	100	96,3	4452	



1025 45° ELBOW

Nominal Diameter		Dimensions in mm		Unit. Weight
Inch	mm	C	Galv. g	
1/2	15	22,4	133	
3/4	20	24,9	189	
1	25	28,5	296	
1 1/4	32	32,8	440	
1 1/2	40	36,3	585	
2	50	42,7	892	



1020R ELBOW REDUCING

Nominal Diameter		Dimensions in mm		Unit. Weight
Inch	mm	X	Z	Galv. g
3/4 x 1/2	20 x 15	30,5	31	166
1 x 1/2	25 x 15	32	34,5	218
1 x 3/4	25 x 20	34,8	36,8	263
1 1/4 x 1/2	32 x 15	34	39	306
1 1/4 x 3/4	32 x 20	36,8	41,2	350
1 1/4 x 1	32 x 25	40,1	42,4	417
1 1/2 x 3/4	40 x 20	38,6	44,5	420
1 1/2 x 1	40 x 25	41,9	45,7	490
1 1/2 x 1 1/4	40 x 32	46,2	47,8	561
2 x 3/4	50 x 20	40,6	50,2	540
2 x 1	50 x 25	43,9	51,3	650
2 x 1 1/4	50 x 32	48,3	53,3	720
2 x 1 1/2	50 x 40	51,3	54,9	780



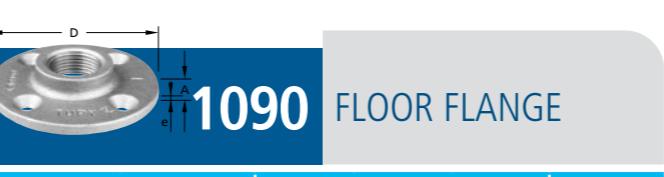
1068 CROSSE

Nominal Diameter		Dimensions in mm		Unit. Weight
Inch	mm	A	Galv. g	
1/4	10	20,6	87	
1/2	15	28,5	229	
3/4	20	33,3	358	
1	25	38,1	520	
1 1/4	32	44,5	780	
1 1/2	40	49,3	1023	
2	50	57,2	1260	



1055 CAP, ROUND

Nominal Diameter		Dimensions in mm		Unit. Weight
Inch	mm	P (min)	Galv. g	
3/4	20	24,6	91	
1	25	29,5	184	
1 1/4	32	32,5	275	
1 1/2	40	33,8	377	
2	50	36,8	622	



1090 FLOOR FLANGE

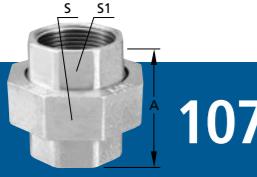
Nominal Diameter		Dimensions in mm			Unit. Weight
Inch	mm	D	A	e	Galv. g
1/2	15	89	15	6	189
3/4	20	89	16	6	286
1	25	101,6	18	6,5	340
1 1/4	32	101,6	20	6,5	421
1 1/2	40	114,3	22,5	7	575
2	50	139,7	26	9	895



1045 SOCKET

Nominal Diameter		Dimensions in mm		Unit. Weight
Inch	mm	W	Galv. g	

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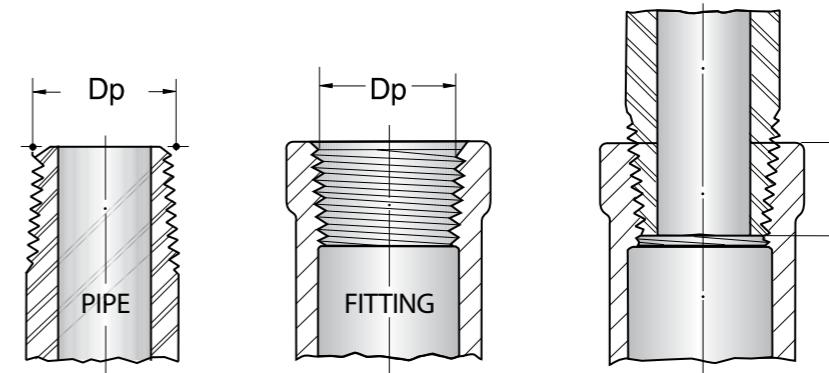


1070

UNION, SINGLE
BRASS SEAT

Nominal Diameter		Dimensions in mm			Unit. Weight
Inch	mm	A	S (max)	S1	Galv. g
1/4	8	36,5	28	16,6	88
5/16	10	41	32	20,1	115
1/2	15	43,5	37	25,4	177
3/4	20	49,5	43,5	31,6	283
1	25	52,5	52,5	38,5	376
1 1/4	32	57,5	63,5	48,5	623
1 1/2	40	61	71,5	55	740
2	50	70	86,5	68,5	1224
2 1/2	65	82	104,5	84,5	2063
3	80	89	129,5	97,5	2776
4	100	98	152,5	123,5	4058

Identification of Nominal Diameters from Actual Medium Pressure NPT Thread Dp and Db Diameters

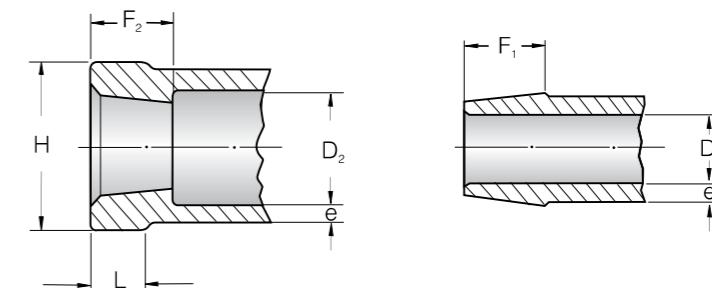


Dimensions in mm

NOMINAL	1/4	5/16	1/2	3/4	1	1 1/4	1 1/2	2	2 1/2	3	4	6
Dp	13,3	16,7	20,7	26,0	32,6	41,3	47,4	59,4	71,6	87,4	112,6	166,3
Db	11,4	14,8	18,3	23,7	29,7	38,5	44,5	56,6	67,6	83,5	108,9	162,7
K	10,2	10,4	13,6	13,9	17,3	18,0	18,4	19,2	28,9	30,5	33,0	038,4

K = Useful Thread Length

Dimensions of Medium Pressure NPT Fittings



Dimensions in mm

NOMINAL DIAMETER	F ₁ (min.)	F ₂ (min.)	D ₁ (max.)	D ₂ (min.)	e	L (min.)	H (min.)
1/4	10,2	8,1	6,6	13,7	2,4	5,5	21,4
5/16	10,4	9,1	9,4	17,1	2,5	5,8	25,8
1/2	13,5	10,9	13,0	21,3	2,7	6,3	30,4
3/4	14,0	12,7	17,5	26,7	3,1	6,9	37,0
1	17,3	14,7	23,1	33,4	3,4	7,7	45,0
1 1/4	18,0	17,0	30,2	42,2	3,7	8,7	54,7
1 1/2	18,3	17,8	35,3	48,3	3,9	9,3	61,6
2	19,3	19,1	45,5	60,3	4,4	10,7	75,3
2 1/2	29,0	23,4	55,9	73,0	5,3	12,1	91,2
3	30,5	24,9	70,6	88,9	5,9	13,9	108,8
4	33,0	27,4	94,0	114,4	6,7	16,8	137,2
6	38,4	32,5	144,0	168,3	8,5	22,9	197,3

NPT - HIGH PRESSURE fittings for applications up to 2.000 lb at ambient temperature.

PRESSURE TABLE

	Maximum Service Pressures (As per ABNT NBR 6925 and ASME B 16.3)			Maximum Service Pressures for Union (As per ABNT NBR 6925 and ASME B 16.39)
Temperature °C	Nominal Diameter			Nominal Diameter
	1/4 a 1 lb (psi)	1/4 a 2 lb (psi)	2½ a 6 lb (psi)	1/4 a 4 lb (psi)
-29 a 66	2.000	1.500	1.000	600
93	1.785	1.350	910	550
121	1.575	1.200	825	505
149	1.360	1.050	735	460
177	1.150	900	650	415
204	935	750	560	370
232	725	600	475	325
260	510	450	450	280
288	300	300	300	230

Note: 1 bar ≈ 14,5 psi • 1 bar ≈ 1 kgf/cm² • 1 bar = 0,1 MPa • 1 psi = 1 lbf/in²

MANUFACTURING STANDARDS

The TUPY NPT-High Pressure fittings are manufactured in compliance with the specifications of standards ABNT NBR 6925 and ASME B 16.3, except the unions which are in compliance with the specifications of ASME B 16.39.

We point out that, depending upon the figure, certain diameters may appear in one standard but not in another one.

MATERIAL

The TUPY NPT-High Pressure fittings are produced in compliance with standards ABNT NBR 6590 and ASTM A 197 in black malleable iron.

THREAD

The sealing threads of the TUPY NPT-High Pressure fittings are produced in compliance with the specifications of standards ABNT NBR 12912 and ANSI B 1.20.1. (conic outside and inside thread). Other types are produced upon inquiry.

INSPECTION

The TUPY NPT-High Pressure fittings are inspected so as to ensure the specifications of standards ABNT NBR 6925, ASME B 16.3 and ASME B 16.39.

BRANDS

The TUPY NPT-High Pressure fittings, when the dimensions allow, have the following identification recorded on them:

- Brand TUPY®.
- The nominal diameter.
- The monogram MI (Malleable Iron)
- The monogram WOG (water, oil and gas).
- The number 300 (Indicative of the class).
- The number 2000 or 1500 or 1000 or 500 (indicative of the service pressure in psi, in the range from -29 to 66°C).
- The name BRAZIL (Indicative of producing country).
- The monogram UL (Underwriters Laboratories Inc.)

SURFACE PROTECTION

The TUPY NPT-High Pressure fittings are produced with black finishing (non-toxic oil) or hot-dip galvanizing, as per ABNT NBR 6323 and ASTM A-153. Other special coatings (Epoxy paints, cataphoretic, hybrid, double galvanizing, etc.) can be furnished upon inquiry.

APPLICATIONS

The TUPY NPT-High Pressure fittings are applied for conducting liquids, gases and vapors.

NOTE

TUPY S.A. reserves the right to introduce in its product lines the alterations which it deems appropriate. The weights (g) appear in this price list are subject to alteration without prior notice. For your safety demand that the fittings acquired are in compliance with the said standards and that tightness tests are executed before final use of the networks installed.





2015 ELBOW

Nominal Diameter		Dimensions in mm		Unit. Weight
Inch	mm	A	Galv. g	
1/4	8	23,9	92	
3/8	10	26,9	132	
1/2	15	31,8	217	
3/4	20	36,6	339	
1	25	41,4	515	
1 1/4	32	49,3	842	
1 1/2	40	54,1	1081	
2	50	63,5	1842	
2 1/2	65	74,7	2745	
3	80	85,9	4182	
4	100	114	8415	
6	150	159	18165	



2025 45° ELBOW

Nominal Diameter		Dimensions in mm		Unit. Weight
Inch	mm	C	Galv. g	
1/4	8	20,6	85	
3/8	10	22,4	133	
1/2	15	25,4	211	
3/4	20	28,7	299	
1	25	33,3	454	
1 1/4	32	38,1	718	
1 1/2	40	42,9	1042	
2	50	50,8	1517	
2 1/2	65	57,2	2363	
3	80	63,5	3588	
4	100	72	5956	
6	150	90	13070	



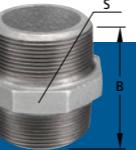
2030 ELBOW

Nominal Diameter		Dimensions in mm		Unit. Weight
Inch	mm	A	J	Galv. g
3/8	10	26,9	41,4	118
1/2	15	31,8	50,8	181
3/4	20	36,6	55,6	291
1	25	41,4	65	463
1 1/4	32	49,3	73,2	692
1 1/2	40	54,1	79,5	928
2	50	63,5	93,7	1570
2 1/2	65	74,7	114,3	2616
3	80	85,9	130,3	3915



2033 LONG SWEEP BEND

Nominal Diameter		Dimensions in mm		Unit. Weight
Inch	mm	F	Galv. g	
1/2	15	55	341	
3/4	20	69	542	
1	25	85	849	
1 1/4	32	105	1383	
1 1/2	40	116	1808	
2	50	140	2854	
2 1/2	65	176	4976	
3	80	205	7842	
4	100	260	14505	



2001 HEXAGON NIPPLE

Nominal Diameter		Dimensions in mm		Unit. Weight
Inch	mm	B	S	Galv. g
1/4	8	41	19	39
3/8	10	42	22	56
1/2	15	53	27	96
3/4	20	53	32	130
1	25	64	41	255
1 1/4	32	65	50	371
1 1/2	40	67	55	504
2	50	70	70	774
2 1/2	65	100	85	1392
3	80	102	100	2110
4	100	110	130	3511
6	150	125	180	7345



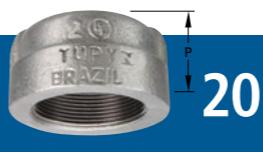
2065R TEE REDUCING

Nominal Diameter		Dimensions in mm		Unit. Weight
Inch	mm	X	Z	Galv. g
1	2	3	1	236
1/2 x 1/2 x 1/4	15 x 15 x 8	28	29	
1/2 x 1/2 x 3/8	15 x 15 x 10	30,2	30,2	259
3/4 x 3/4 x 3/8	20 x 20 x 10	30	34	344
3/4 x 3/4 x 1/2	20 x 20 x 15	33,3	35,1	388
1 x 1 x 1/2	25 x 25 x 15	36,6	38,1	559
1 x 1 x 3/4	25 x 25 x 20	38,1	39,6	597
1 1/4 x 1 1/4 x 3/4	32 x 32 x 20	41,4	44,5	876
1 1/4 x 1 1/4 x 1	32 x 32 x 25	44,5	46	956
1 1/2 x 1 1/2 x 1	40 x 40 x 25	46	50,8	1150
1 1/2 x 1 1/2 x 1/4	40 x 40 x 32	50,8	52,3	1345
2 x 2 x 1 1/4	50 x 50 x 32	54,1	58,7	1855
2 x 2 x 1 1/2	50 x 50 x 40	57,2	60,5	1988
2 1/2 x 2 1/2 x 1 1/2	65 x 65 x 40	62	66,8	2837
2 1/2 x 2 1/2 x 2	65 x 65 x 50	68,3	70	3269
3 x 3 x 2	80 x 80 x 50	71,4	79,5	4294
3 x 3 x 2 1/2	80 x 80 x 65	77,7	84,1	4840
4 x 4 x 2 1/2	100 x 100 x 65	86	97	7462
4 x 4 x 3	100 x 400 x 80	92	100	7904
6 x 6 x 4	150 x 150 x 100	112	125,4	16920



2045 SOCKET

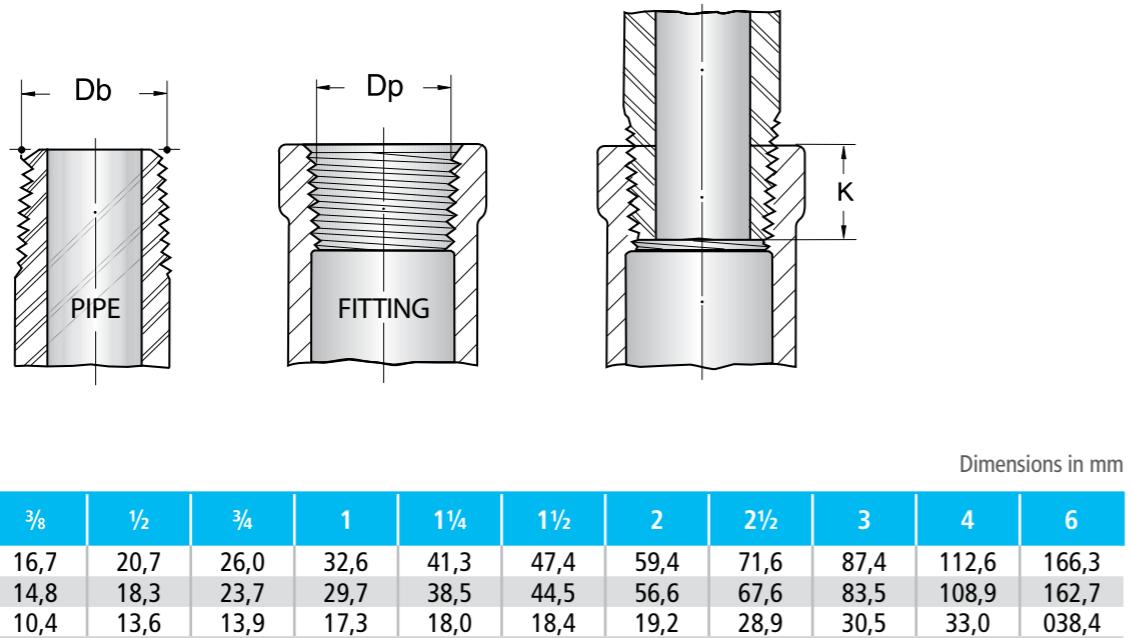
Nominal Diameter		Dimensions in mm		Unit. Weight
Inch	mm	W	Galv. g	
1/4	8	35,1	75	
3/8	10	41,4	119	
1/2	15	47,8	193	
3/4	20	54,1	303	
1	25	60,5	533	
1 1/4	32	73,2	701	
1 1/2	40	73,2	859	
2	50	92,2	1446	
2 1/2	65	104,9	2276	
3	80	104,9	3131	
4	100	120	5346	
6	150	150	12075	



2055 CAP, ROUND

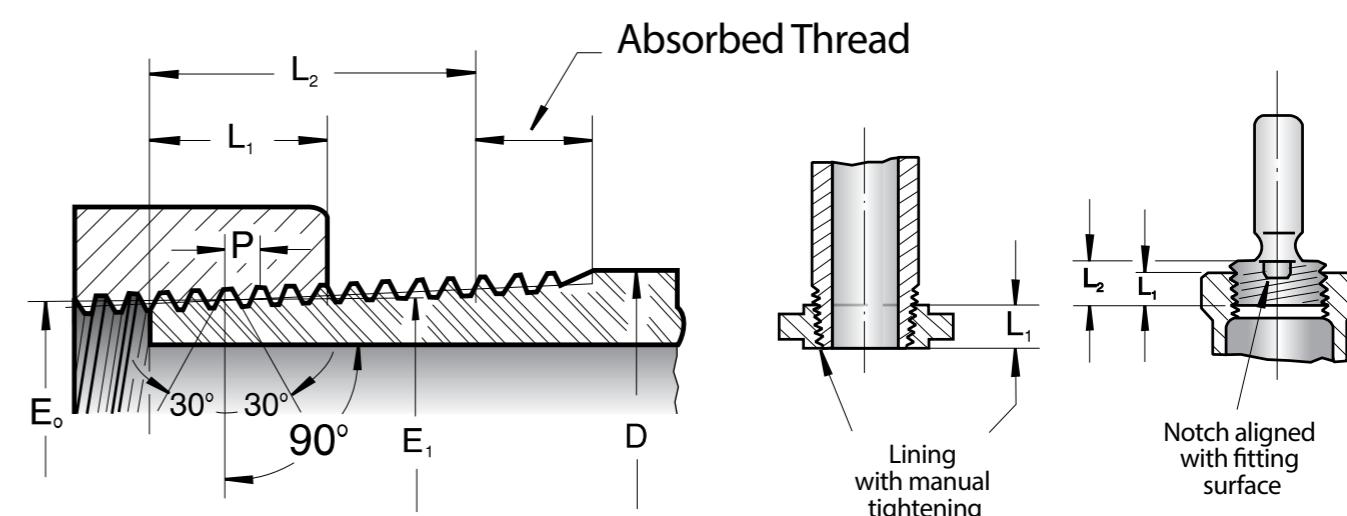
Nominal Diameter		Dimensions in mm		Unit. Weight
Inch	mm	P (min)	Galv. g	
1/4	8	19,8	44	
3/8	10	21,1	70	
1/2	15	24,9	109	
3/4				

Identification of Nominal Diameters from Actual High Pressure NPT Thread D_p and D_b Diameters



K = Useful Thread Length

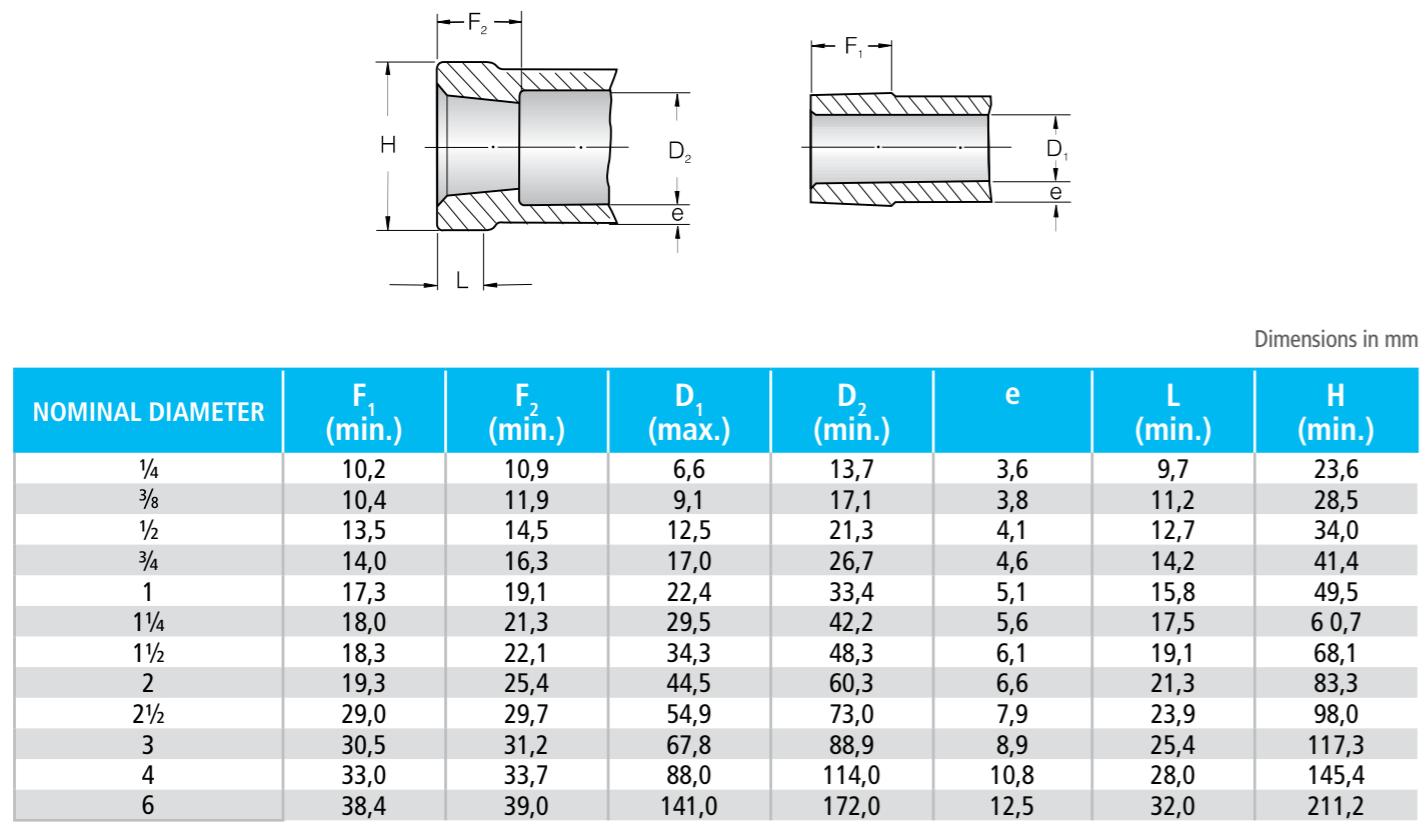
NPT Thread for Pipes As per ANSI B 1.20.1 and ABNT NBR 12912



Tolerance in Product:

One turn more or less related to the notch of the cap calibrator, or surface of the ring calibrator.
Beveled parts, notch aligned with bevel bottom.

Basic Dimensions of High Pressure NPT Fittings



NOMINAL DIAMETER OF PIPE	EFFECTIVE DIAMETER (SIDES) AT THREAD TIP <i>E₀</i> (mm)	MANUAL TIGHTENING		OUTSIDE DIAMETER OF PIPE <i>D</i> (mm)	OUTSIDE USEFUL THREAD		PITCH P (mm)	HEIGHT OF THREAD FILLET (mm)	NUMBER OF FILLETS PER INCH (25,4 mm)
		LENGTH L ₁ * (mm)	DIAM. E ₁ * (mm)		LENGTH L ₂ ** (mm)	WIRES			
1/8	9,233	4,102	4,36	9,489	10,287	6,703	7,12	0,940	0,753
1/4	12,126	5,786	4,10	12,487	13,716	10,206	7,23	1,411	1,129
3/8	15,545	6,096	4,32	15,926	17,145	10,358	7,34	1,411	1,129
1/2	19,264	8,128	4,48	19,772	21,336	13,556	7,47	1,814	1,451
3/4	24,579	8,611	4,75	25,117	26,670	13,861	7,64	1,814	1,451
1	30,826	10,160	4,60	31,461	33,401	17,343	7,85	2,209	1,767
1 1/4	39,551	10,668	4,83	40,218	42,164	17,953	8,13	2,209	1,767
1 1/2	45,621	10,668	4,83	46,287	48,260	18,377	8,32	2,209	1,767
2	57,633	11,074	5,01	58,325	60,325	19,215	8,70	2,209	1,767
2 1/2	69,076	17,323	5,46	70,159	73,025	28,893	9,10	3,175	2,540
3	84,852	19,456	6,13	86,068	88,900	30,480	9,60	3,175	2,540
3 1/2	97,473	20,853	6,57	98,776	101,600	31,750	10,00	3,175	2,540
4	110,093	21,438	6,75	111,433	114,300	33,020	10,40	3,175	2,540
5	136,925	23,800	7,50	138,412	141,300	35,720	11,25	3,175	2,540
6	163,731	24,333	7,66	165,252	168,275	38,418	12,10	3,175	2,540

Note.: The values in millimeters are the result of the conversion and rounding of the original dimensions in inches.

* Also diameter of sides in notch of cap calibrator.

** Also length of cap calibrator.

+ Also length of ring calibrator and length of tip up to notch of cap calibrator.

**Carbon Steel Pipes with quality requirements
for conducting Fluids
ABNT NBR 5590**

With or Without Thread – Galvanized or Black

THREAD: NPT as per ANSI B 1.20.1 and ABNT NBR 12912

CLASS: The following classes are considered in this specification:

- NORMAL (N)
- REINFORCED (R)
- DOUBLY REINFORDED (DR)

MATERIAL: Carbon steel

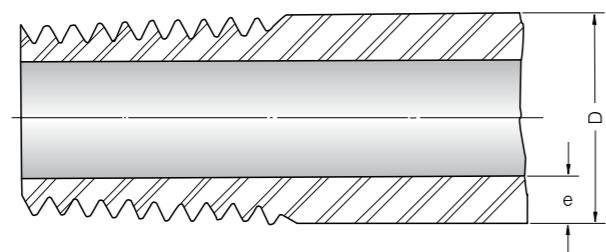
TEMPERATURE: Advised up to 200°C

TOLERANCES: Of wall thickness: up to at least (-) 12,5%.
Of outside diameter: up to 1½ $\begin{cases} +0,4\text{mm} \\ -0,8\text{mm} \end{cases}$
Greater 2" $\pm 0,01\text{D}$

ZINC LAYER:

Minimum average weight of two ends	Minimum weight at any end
$\geq 550 \text{ g/m}^2$ (77 microns)	$\geq 490 \text{ g/m}^2$ (68 microns)

DIMENSIONS: See table on following page.



NOTE:

TUPY S.A. does not manufacture carbon steel pipes.
The data concerning these pipes was placed
in this catalog merely for informative purposes.

NORMAL CLASS PIPES ABNT NBR 5587 (SIMILAR ASTM A 53)								
Nominal Diameter		Outside Diameter (D) mm	Class	Series (Schedule)	Wall Thickness (e)		Massa por Metro	
mm	in				With Seam mm	Without Seam mm	With Seam kg/m	Without Seam kg/m
6	1/8	10,29	N	40	1,70	1,72	0,36	0,36
8	1/4	13,72	N	40	2,25	2,24	0,63	0,63
10	3/8	17,25	N	40	2,36	2,31	0,86	0,85
15	1/2	21,34	N	40	2,80	2,77	1,28	1,27
20	3/4	26,67	N	40	2,80	2,87	1,65	1,68
25	1	33,40	N	40	3,35	3,38	2,48	2,50
32	1 1/4	42,16	N	40	3,55	3,56	3,38	3,39
40	1 1/2	48,26	N	40	3,75	3,68	4,12	4,05
50	2	60,32	N	40	4,00	3,91	5,56	5,44
65	2 1/2	73,03	N	40	5,30	5,16	8,85	8,64
80	3	88,90	N	40	5,60	5,49	11,50	11,29
90	3 1/2	101,60	N	40	5,60	5,74	13,26	13,57
100	4	114,30	N	40	6,00	6,02	16,02	16,07
125	5	141,30	N	40	6,70	6,55	22,24	21,77
150	6	168,28	N	40	7,10	7,11	28,22	28,26

REINFORCED CLASS PIPES NBR 5587 (SIMILAR ASTM A 53)								
Nominal Diameter		Outside Diameter (D) mm	Class	Series (Schedule)	Wall Thickness (e)		Massa por Metro	
mm	in				With Seam mm	Without Seam mm	With Seam kg/m	Without Seam kg/m
6	1/8	10,29	R	80	2,36	2,41	0,46	0,47
8	1/4	13,72	R	80	3,00	3,02	0,79	0,80
10	3/8	17,25	R	80	3,15	3,20	1,09	1,10
15	1/2	21,34	R	80	3,75	3,73	1,63	1,62
20	3/4	26,67	R	80	4,00	3,91	2,24	2,19
25	1	33,40	R	80	4,50	4,55	3,21	3,24
32	1 1/4	42,16	R	80	5,00	4,85	4,58	4,46
40	1 1/2	48,26	R	80	5,00	5,08	5,33	5,41
50	2	60,32	R	80	5,60	5,54	7,56	7,48
65	2 1/2	73,03	R	80	7,10	7,01	11,54	11,41
80	3	88,90	R	80	7,50	7,62	15,24	15,46
90	3 1/2	101,60	R	80	8,00	8,08	18,47	18,63
100	4	114,30	R	80	8,50	8,56	22,18	22,32
125	5	141,30	R	80	9,50	9,53	30,88	30,97
150	6	168,28	R	80	11,20	10,97	43,38	42,56

DOUBLY REINFORDED CLASS PIPES ABNT NBR 5587 (SIMILAR ASTM A 53)								
Nominal Diameter		Outside Diameter (D) mm	Class	Series (Schedule)	Wall Thickness (e)		Massa por Metro	
mm	in				With Seam mm	Without Seam mm	With Seam kg/m	Without Seam kg/m
15	1/2	21,34	DR	-	7,50	7,47	2,56	2,55
20	3/4	26,67	DR	-	8,00	7,82	3,68	3,64
25	1	33,40	DR	-	9,00	9,09	5,42	5,45
32	1 1/4	42,16	DR	-	9,50	9,70	7,65	7,76
40	1 1/2	48,26	DR	-	10,00	10,16	9,43	9,55
50	2	60,32	DR	-	11,20	11,07	13,57	13,44
65	2 1/2	73,03	DR	-	14,00	14,02	20,38	20,41
80	3	88,90	DR	-	15,00	15,24	27,34	27,68
100	4	114,30	DR	-	17,00	17,12	40,79	41,03
125	5	141,30	DR	-	19,00	19,05	57,30	57,43
150	6	168,28	DR	-	22,40	21,95	80,58	79,21

Note: These tables only refer to the pipes most used. But in standard ABNT NBR 5587, the scope is greater.

1 - PRODUCT

Line of fittings for steel pipes and polyethylene pipes with smooth spigot, versatile, quick to install, simple and with perfect watertight fit, without using special tools

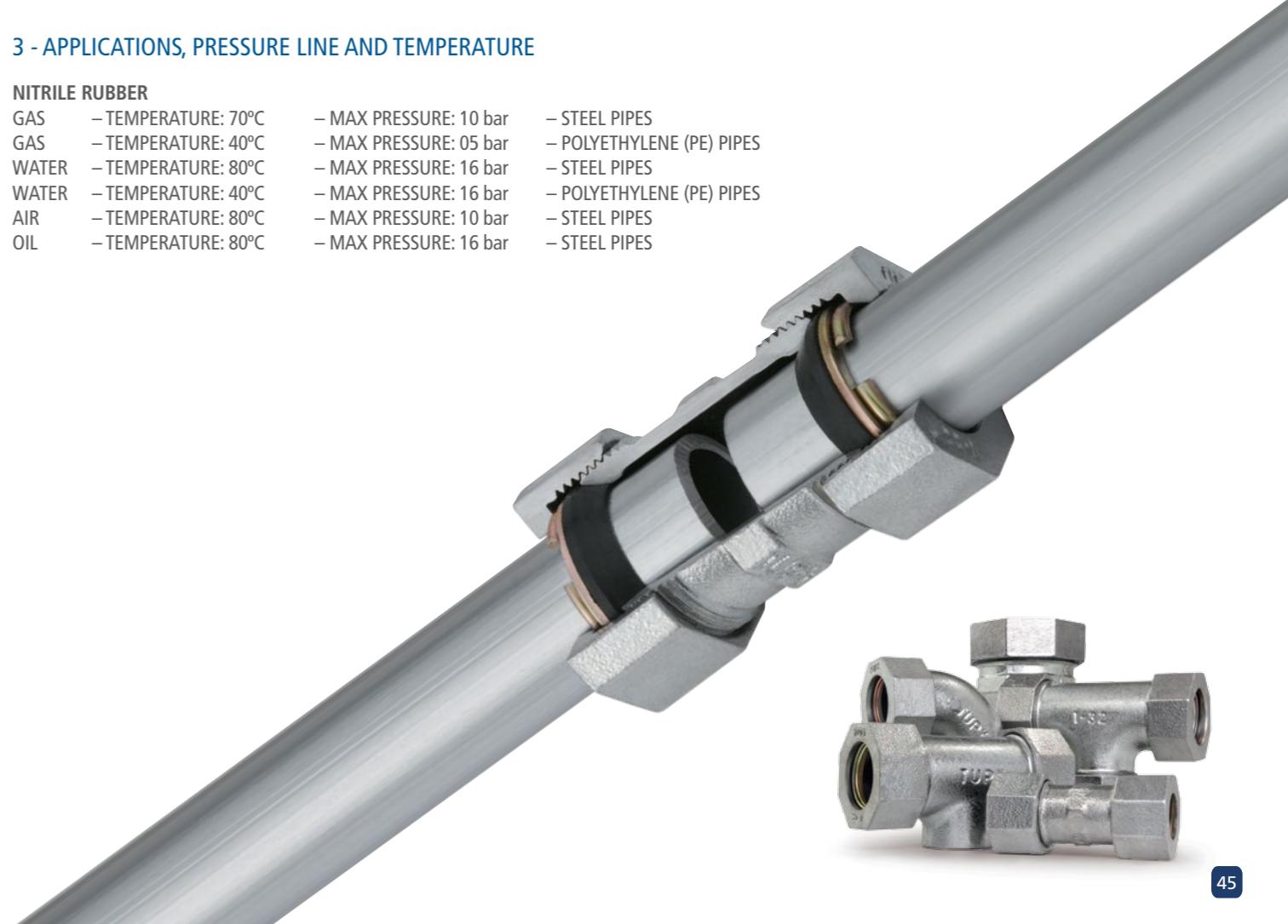
2 - TECHNICAL SPECIFICATIONS

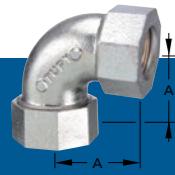
		Applicable Standards	
		ISO	ABNT
Body and Nut		ISO 5922	NBR 6590
Thread	of Seal	ISO 7-1	NBR NM-ISO 7-1
	of Coupling	ISO 228-1	NBR 8133
Double Galvanizing	Hot-Dip Galvanizing	ISO 1461	NBR 6323
	Electrogalvanizing	ISO 2081	NBR 10476
Components	Snap Ring for steel pipe	ISO 8458-1	NBR NM 194-1
	Compression Ring	ISO 683-18	NBR NM 87
	Sealing Ring	ISO 16010	NBR EB 362

3 - APPLICATIONS, PRESSURE LINE AND TEMPERATURE

NITRILE RUBBER

GAS	- TEMPERATURE: 70°C	- MAX PRESSURE: 10 bar	- STEEL PIPES
GAS	- TEMPERATURE: 40°C	- MAX PRESSURE: 05 bar	- POLYETHYLENE (PE) PIPES
WATER	- TEMPERATURE: 80°C	- MAX PRESSURE: 16 bar	- STEEL PIPES
WATER	- TEMPERATURE: 40°C	- MAX PRESSURE: 16 bar	- POLYETHYLENE (PE) PIPES
AIR	- TEMPERATURE: 80°C	- MAX PRESSURE: 10 bar	- STEEL PIPES
OIL	- TEMPERATURE: 80°C	- MAX PRESSURE: 16 bar	- STEEL PIPES



**1907** ELBOW

Nominal Diameter		Dimensions in mm		Unit. Weight
Inch	mm	A		Galv. g
1/2	15	53		
3/4	20	57		
1	25	64	690	
1 1/4	32	75		
1 1/2	40	79	1445	
2	50	86	1937	
2 1/2	65	106	3056	

**1949** TEE WITH CENTRAL THREAD

Nominal Diameter		Dimensions in mm		Unit. Weight
Inch	mm	A	B	Galv. g
1/2	15	53	32	
3/4	20	55	38	
1	25	59	38	734
1 1/4	32	68	78	
1 1/2	40	71	48	1470
2	50	79	61	2113
2 1/2	65	136	75	3388

**1931** SOCKET

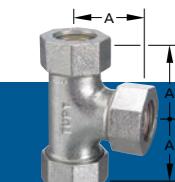
Nominal Diameter		Dimensions in mm		Unit. Weight
Inch	mm	A		Galv. g
1/2	15	85	379	
3/4	20	94	572	
1	25	92	625	
1 1/4	32	104	912	
1 1/2	40	99	1230	
2	50	115	1697	
2 1/2	65	150	2764	

**1900** KIT COMPONENTS TUPYPRES

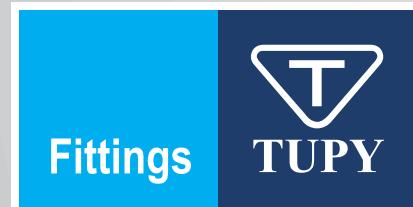
Nominal Diameter		Unit. Weight
Inch	mm	Galv. g
1/2		
3/4		
1		
1 1/4		
1 1/2		
2		
2 1/2		

**1932** SOCKET REDUCING

Nominal Diameter		Dimensions in mm		Unit. Weight
Inch	mm	A		Galv. g
1 1/2 x 1	40 x 25	101	975	
2 x 1	50 x 25	104	1200	
2 x 1 1/2	50 x 40	116	1492	

**1944** TEE

Nominal Diameter		Dimensions in mm		Unit. Weight
Inch	mm	A		Galv. g
1/2	15	53		
3/4	20	54		
1	25	64	1020	
1 1/4	32	75		
1 1/2	40	79	2065	
2	50	86	2713	
2 1/2	65	106	4536	



Your Reliable Brand

TUPY S.A.

Rua Albano Schmidt, 3400
89227-901 - Joinville - SC- Brazil
fittings@tupy.com



Certifications Available

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Certification

