CS A105N 3000 PSI ELBOW 90D – SOCKET WELD

90 Degree Elbow · Forged Carbon Steel · Class 3000 SW

SKU: SW-0180 | BRAND: BOTHWELL | CLASS 3000 | SOCKET WELD

FIG. 1 | CS A105N CLASS 3000 ELBOW 90 DEGREE, SOCKET WELD

PRODUCT OVERVIEW

The SWBM CS A105N Class 3000 Socket Weld Elbow turns a small bore welded line through a right angle. A socket weld joint has no thread to leak and no sealant to degrade, which is why it is specified on hydrocarbon, steam and high integrity service.

The pipe enters the machined socket and is fillet welded on the outside. The body is made to ASME B16.11.

Fitting type	**90 degree elbow**
Function	**Right angle change of direction**
Material	**ASTM A105N forged steel**
End connection	**Socket weld, both ends**
Standard	**ASME B16.11**
Size range	**1/8" to 4" (DN6 to DN100)**

TECHNICAL SPECIFICATION

Material	**ASTM A105N carbon steel**
Manufacture	**Forged and normalised**
Dimensional standard	**ASME B16.11**
Pressure class	**Class 3000**
Ends	**Socket weld, both ends**
Socket bores	**ASME B16.11**

Finish	**Black, oiled for transport**
Marking	**Grade, class, size and heat number**
Temperature range	**-29°C to +425°C**
Country of origin	**Taiwan**
Certification	**EN 10204 3.1 on request**

BILL OF MATERIALS

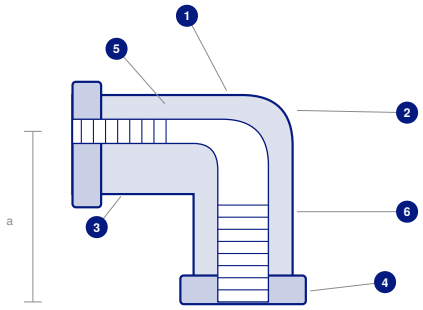

FIG. 2 | SECTIONAL ARRANGEMENT

#	FEATURE	DESCRIPTION
1	Body	ASTM A105N, forged one piece
2	Socket, end 1	Plain bore for socket weld
3	Socket, end 2	Plain bore for socket weld
4	Waterway	Machined bore through the body
5	Socket shoulder	Internal stop setting the expansion gap
6	Marking	Grade, class, size and heat number

One piece forged fitting with no seals or moving parts. The same figure is stocked in the threaded and socket weld patterns and in higher classes as separate items.

DIMENSIONS AND WEIGHTS

SIZE	DN	THREAD / SOCKET	PIPE OD (MM)
1/8"	6	1/8" socket	10.3
1/4"	8	1/4" socket	13.7
3/8"	10	3/8" socket	17.1
1/2"	15	1/2" socket	21.3
3/4"	20	3/4" socket	26.7
1"	25	1" socket	33.4
1.1/4"	32	1.1/4" socket	42.2
1.1/2"	40	1.1/2" socket	48.3
2"	50	2" socket	60.3
2.1/2"	65	2.1/2" socket	73.0
3"	80	3" socket	88.9
4"	100	4" socket	114.3

Pipe outside diameters are to ASME B36.10M and are the sizes the socket or thread is made to suit. Body dimensions, socket depth and minimum wall are to ASME B16.11 and are issued on certified drawings against order. Masses are not published for this item.

ORDERING INFORMATION

FIELD	OPTIONS
Product code	SW-0180
Size	1/8", 1/4", 3/8", 1/2", 3/4", 1", 1.1/4", 1.1/2", 2", 2.1/2", 3", 4"
Thread	Socket weld, no thread
Material	ASTM A105N forged carbon steel
Order example	**SW-0180 / 1/2" / SW / CLASS 3000**

Stock held in Dubai for fast despatch across the UAE and GCC. Contact our sales desk for pricing, availability, project quantities and certification requirements.

PRESSURE AND TEMPERATURE

Pressure class	**To ASME B16.11**
Basis of the class	**A class designation, not a psi rating**
Temperature range	**-29°C to +425°C for A105N**
Rating	**Take the allowable from the design code**

ASME B16.11 class designations are not cold working pressures in psi. The allowable pressure at temperature must be taken from the applicable design code for A105N. Confirm the duty with SWBM before use above 425°C or below -29°C, and for sour service.

TYPICAL APPLICATIONS

- Oil and gas gathering and process piping
- Refinery and petrochemical plant
- Steam, condensate and boiler house piping
- Instrument tappings and small bore branch connections
- Hydraulic and high pressure utility lines
- Power generation and industrial process plant

COMPLIANCE AND QUALITY

- Manufactured to ASME B16.11
- Material ASTM A105N, normalised carbon steel forging
- NPT threads to ASME B1.20.1
- Marked with grade, class, size and heat number
- Material test certificate EN 10204 3.1 on request
- Suitable for ASME B31.1 and B31.3 piping systems
- NACE MR0175 compliant material against enquiry

INSTALLATION AND OPERATION

- Cut and bevel the pipe square and clean the socket bore before assembly
- Insert the pipe fully home, then withdraw about 1.6 mm to leave the expansion gap
- Do not weld a pipe bottomed hard against the socket shoulder, the joint will crack
- Use a qualified welding procedure and a qualified welder for the material
- Preheat and post weld heat treat where the code or the wall thickness requires it
- Hydrotest the joint in line with the applicable design code

COMPANY

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