

AS/NZS 1074

- ALLLAND Production Standards Overview



Definition and Applications

1. Definition

AS/NZS 1074 specifies manufacturing, performance, and inspection requirements for seamless/welded steel pipes (carbon steel, low-alloy steel) for water, gas, and general industrial use. Key steel grades include Grade C250, C350, C450, C550, X250, X350 (X denotes weldable grades).

It is designed for fluid transportation and general structural applications in municipal, industrial, and infrastructure projects.

2. ALLLAND AS/NZS 1074 Steel Pipe Dimensions

Parameters	Dimensions
O.D.	16 mm – 630 mm (0.63" – 24.8")
WT	2.0 mm – 30.0 mm (Sch 10 – Sch 100)
Length	6 m – 12 m (20' – 40')
Material	Grade C250/ C350/ C450/ C550/ X250/ X350
Process	Seamless/ ERW/ SSAW/ LSAW
Connection	Butt-weld/ Socket-weld/ Threaded

3. Application

Widely used in municipal water supply/drainage, natural gas transmission, industrial fluid

pipelines, and general structural supports, suitable for both indoor and outdoor (including mild cold-region) environments.

Critical Tolerances

Our AS/NZS 1074 standard steel pipes are manufactured in strict compliance with the specification requirements. The pipe surfaces are free from cracks, pores, and noticeable pits, ensuring reliable installation and long service life.

Item	Tolerance	Description
O.D.	±1.0% (Seamless) ±1.5–2.5% (Welded)	Small diameter (≤50 mm) ≤ ±0.6 mm
WT	±12.5% (Seamless) ±10–15% (Welded)	Thick-walled pipes (WT >20 mm) allow ±2% extra tolerance
Length	±0.5% or ±50 mm	Standard length: 6–12 m; Custom lengths with ±100 mm tolerance

Chemical and Mechanical Properties

1. Chemical Composition (wt%, max)

Element	Composition, %					
	Grade C250	Grade C350	Grade C450	Grade C550	Grade X250	Grade X350
C, max	0.230	0.200	0.180	0.160	0.210	0.190
Mn	0.50–1.30	0.70–1.40	0.80–1.50	1.00–1.60	0.60–1.30	0.80–1.40
P, max	0.040	0.035	0.030	0.025	0.035	0.030
S, max	0.040	0.035	0.030	0.025	0.035	0.030
Si, max	0.15–0.35	0.15–0.40	0.20–0.45	0.25–0.50	0.15–0.35	0.20–0.40
Cu	0.300	0.350	0.400	0.450	0.300	0.350
Ni	0.300	0.500	0.700	1.000	0.300	0.500
Cr	0.300	0.500	0.700	1.000	0.300	0.500
Al, min	0.020	0.020	0.020	0.020	0.020	0.020
V, max	0.050	0.080	0.100	0.120	0.050	0.080
Nb, max	0.030	0.050	0.070	0.090	0.030	0.050
Mo, max	0.100	0.150	0.200	0.250	0.100	0.150
N, max	0.012	0.012	0.012	0.012	0.012	0.012

2. Mechanical Properties

Grade		Tensile Strength, min	Yield Strength, min
Grade C250	psi	58,000	36,260
	MPa	400	250
Grade C350	psi	67,000	50,760
	MPa	460	350
Grade C450	psi	78,000	65,260
	MPa	538	450
Grade C550	psi	89,000	79,760
	MPa	614	550
Grade X250	psi	59,000	36,260
	MPa	407	250
Grade X350	psi	68,000	50,760
	MPa	469	350

3. Sectional properties for a limited range

Table 1-DIMENSIONS OF STEEL TUBES—LIGHT

DN	O.D MIN	O.D MIN	thickness
DN 8	13.2	13.6	1.8
DN 10	16.7	17.1	1.8
DN 15	21.0	21.4	2.0
DN 20	26.4	26.9	2.3
DN 25	33.2	33.8	2.6
DN 32	41.9	42.5	2.6
DN 40	47.8	48.4	2.9
DN 50	59.6	60.2	2.9
DN 65	75.2	76.0	3.2
DN 80	87.9	88.7	3.2
DN 100	113.0	113.9	3.6

Table 2--DIMENSIONS OF STEEL TUBES—MEDIUM

DN	O.D MIN	O.D MIN	thickness
DN 8	13.3	13.9	2.3
DN 10	16.8	17.4	2.3

DN 15	21.1	21.7	2.6
DN 20	26.6	27.2	2.6
DN 25	33.4	34.2	3.2
DN 32	42.1	42.9	3.2
DN 40	48.0	48.8	3.2
DN 50	59.8	60.8	3.6
DN 65	75.4	76.6	3.6
DN 80	88.1	89.5	4.0
DN 100	113.3	114.9	4.5
DN 125	138.7	140.6	5.0
DN 150	164.1	166.1	5.0

Table 3--DIMENSIONS OF STEEL TUBES—HEAVY 1

DN	O.D MIN	O.D MIN	thickness
DN 8	13.3	13.9	2.9
DN 10	16.8	17.4	2.9
DN 15	21.1	21.7	3.2
DN 20	26.6	27.2	3.2
DN 25	33.4	34.2	4.0
DN 32	42.1	42.9	4.0
DN 40	48.0	48.8	4.0
DN 50	59.8	60.8	4.5
DN 65	75.4	76.6	4.5
DN 80	88.1	89.5	5.0
DN 100	113.3	114.9	5.4
DN 125	138.7	140.6	5.4
DN 150	164.1	166.1	5.4

Testing Requirements

1. Chemical Composition Test

- Spectrometric analysis, Wet chemical analysis, XRF analysis.
- 1 test per heat of steel; Additional tests required for batches exceeding 50 tons.

2. Tensile Test

- Tensile strength, Yield strength (0.2% offset), Elongation.

- Transverse/longitudinal samples from pipe body (1 specimen per 50 pipes or per heat).

3. Impact Test

- -20° C / -4° F (standard); -30° C / -22° F (optional for cold regions).
- Visual check for defects; Ultrasonic testing (UT) for welded pipes (10% of welds, 100% for critical applications).

4. Dimensional Inspection

- Available finishes include painting, oiling, FBE, 3PP, 3PE, TPEP and other anti-corrosion treatments.

Surface Treatment:

- Available finishes include painting, oiling, FBE, 3PP, 3PE, TPEP and other anti-corrosion treatments.

ALLLAND AS/NZS 1074 Product Images

