

## JIS G3461 and JIS G3462 Japanese Standard (Steel Pipe for Boiler and Heat Exchanger)

### Standard:

JIS G3461-Japanese Industrial Standard

JIS G3462-Japanese Industrial Standard

### Application:

It is applied to boiler water pipe, flue pipe, superheater pipe and air preheating pipe.

### Grades of Main Steel Pipe:

STB340, STB410, STBA22, STBA23, etc.

Other grades of steel pipe are provided based on negotiations.

### Mechanical Properties:

Standard	Grade	Tensile strength (MPa)	Yield strength (MPa)	Elongation (%)
JIS G3461	STB340	≥340	≥175	≥35
	STB410	≥410	≥255	≥25
JIS G3462	STBA22	≥415	≥210	≥30
	STBA23	≥415	≥210	≥30

### Chemical Composition

Standard	Grade	Chemical Composition limits, %									
		C	Si	Mn	P	S	Cr	Mo	Cu	Ni	V
JIS G3461	STB340	≤0.18	≤0.3	0.30~0.60	≤0.035	≤0.035	/	/	/	/	/
	STB410	≤0.32	≤0.35	0.30~0.80	≤0.035	≤0.035	/	/	/	/	/
JIS G3462	STBA22	≤0.15	≤0.50	0.30~0.60	≤0.035	≤0.035	0.80~1.25	0.45~0.65	/	/	/
	STBA23	≤0.15	0.50~1.00	0.30~0.60	≤0.030	≤0.030	1.00~1.50	0.45~0.65	/	/	/

### Remarks

HR: hot rolled	CW: cold worked	SR: stress relieved
A: annealed	N: normalized	HF