Contact: **01937 584440**
sales@westyorkssteel.com

BS970 Steel Specifications

BS970 steel suppliers and stockholders delivering to the whole of the UK. West Yorkshire Steel are suppliers of BS970 specifications in round bar, flat bar and steel plate. BS970 steel grades are commonly carbon and alloy steels which can be heat treated to achieve a wide range of tensile strengths and mechanical properties. Some stainless steel specifications are also referenced in BS970. Although still commonly produced to BS970 designations most carbon and alloy grades have officially been superseded by new BS EN steel standards such as BS EN 10083, BS EN 10088 and BS EN 10277.

If you do not find the BS970 specification you require on our web site please contact our sales team who may be able to assist you with your enquiry.

Form of Supply

West Yorkshire Steel are stockholders and suppliers of British Standard 970 steel specifications in round bar, flat bar and cut plate. Diameters in BS970 grades are available as bright drawn and black hot rolled bar. Grades can be supplied to your required lengths as one offs or multiple cut pieces. Diameters can be supplied precision ground to tight tolerances.

Click here to contact our friendly sales team who will assist you with your alloy steel enquiry.

- Plate
- Flat
- Diameter

Steel Names

In general terms the specification name given to each BS970 grade can provide an indication of the type of steel and in some grades limited detail of the composition.

Most BS970 specifications are made up of six characters with the first 3 digits giving guidance to the steel type and indicate the following,
000-299 Carbon manganese steel grades
200-240 Carbon manganese free cutting steel grades
250-260 Silicon manganese spring steel grades
300-499 Stainless steel and heat resisting steel grades.
500-999 Alloy steel grades

The 4th character of a BS970 grade is a letter which indicates the following,
A The steel is supplied to composition only
H The steel is suitable for heat treatment (though this applies to most specifications)
M Mechanical properties are available with the steel
S Stainless steel grades

The last two characters of the grade are 2 numbers that commonly refer to the carbon content of the steel.

Specifications

BS970 steel specifications supplied by West Yorkshire Steel include the following:-

Carbon Steels	Alloy Steels
070M20	251A58
080A15	605M36
080M15	708M40
080M40	709M40
080A42	817M40
080M46	826M40
080M50	655M13
070M55	722M24
535A99	905M39
	735A50
	835M30

Limited Ruling Section

BS970 carbon steel and alloy steel specifications can be heat treated to achieve a wide range of mechanical properties. Alloy steel grades are often supplied in the hardened and tempered condition. When heat treating BS970 grades the limited ruling section must be taken in to consideration. The limited ruling section relates to a specific set of mechanical properties achievable after heat treatment with the maximum diameter (or cross section) and steel composition having important bearing on what properties are achievable. Please refer to the source BS970 specification or consult a heat treatment specialist for full guidance on limited ruling section.

Typical Mechanical Properties*

For guidance only we list below typical mechanical properties achievable when heat treating BS970 specifications. Please refer to the full BS970 specification of each grade for further information.

Condition	Tensile N/mm²	Yield N/mm²	Elongation %	Izod KCV J	Hardness Brinell
Condition	Tensile N/mm²	Yield N/mm²	Elongation %	Izod KCV J	Hardness Brinell
P	550/700	340	20	28	152/207
Q	625/775	400	18	28	179/227
R	700/850	480	16	28	201/255
S	775/925	525	14	16	223/277
T	850/1000	650	13	35	248/302
U	925/1000	755	12	42	269/331
V	1000/1150	850	12	42	293/352
W	1075/1225	940	11	35	311/375
X	1150/1300	1020	10	28	341/401
Y	1225/1375	1095	10	21	363/429
Z	1550	1235	5	9	444

(*subject to ruling section and specification)

Heat Treatment

Heat treatment temperatures, including rate of heating, cooling and soaking times will vary due to factors such as the shape and size of each BS970 steel component. Other considerations during the heat treatment process include the type of furnace, quenching medium and work piece transfer facilities. Please consult your heat treatment provider for full guidance on heat treatment of BS970 steel.

Welding

We recommend that you contact your welding consumables supplier who should provide you full assistance and information on welding steel grades.

Certification

BS970 steel specifications are commonly available with a cast and analysis certificate or a BS EN 10204 3.1 mill certificate, please request when placing any orders.