

Material Grade: **230M07 Pb**  
 Material Condition: **Untreated/ Normalised/ Drawn**  
 Surface Finish: **As rolled/ Bright drawn/ Bright turned**

Associated Standard: **BS 970**

Description:

**A non-alloyed free cutting steel with excellent machinability. It is ideal for parts requiring significant material removal and close tolerances.**  
**The addition of Lead (Pb) as well as high Sulphur and Phosphorus lubricates the tooling at minimal reduction of strength, when compared with non-lead version of this grade.**  
**This grade is not recommended for welded applications.**

Typical applications: **Nuts, bolts and other volume machining parts**

**1. STEELMAKING**

	<u>C</u>	<u>Mn</u>	<u>S</u>	<u>P</u>	<u>Cr*</u>	<u>Ni*</u>	<u>Mo*</u>	<u>Pb</u>
Min		<b>0.90</b>	<b>0.25</b>					<b>0.12</b>
Max	<b>0.15</b>	<b>1.30</b>	<b>0.35</b>	<b>0.70</b>	<b>0.30</b>	<b>0.40</b>	<b>0.15</b>	<b>0.35</b>

(\* denotes residual element)

**2. TYPICAL MECHANICAL PROPERTIES**

Test type		<u>Tensile and hardness test (at room temperature)</u>					
		Yield (Re)	0.2% proof	UTS (Rm)	Elong (A)	R of A (Z)	Hardness
Unit		<i>N/mm<sup>2</sup></i>	<i>N/mm<sup>2</sup></i>	<i>N/mm<sup>2</sup></i>	%	%	<i>HB</i>
Normalised	Min	<b>215</b>	-	<b>360</b>	<b>22</b>	-	<b>103</b>
	Max	-	-	-	-	-	-
Drawn <sup>1</sup>	Min	<b>340</b>	<b>300</b>	<b>430</b>	<b>8</b>	-	-
	Max	-	-	-	-	-	-

<sup>1</sup>Mechanical property ranges vary with size, above example shows the property ranges for sections >16 ≤40mm