

BRIGHT LEADED FREE CUTTING STEEL – AISI 12L14

AISI 12L14 Low Carbon Leaded Free Cutting Steel, bright drawn or smooth turned with a consistently excellent level of machinability. The lead improves machinability greatly with little affect on the mechanical properties.

Typical Applications:

Very heavily machined components or parts subject to low stress levels, low shock loading, limited forming and very limited welding

Related specifications:

AS 1443-1994	12L14
BS 970-3-1991	230M07Pb
EN 10277	1.0718 11SMn30Pb
JIS G 4804	SUM22L / SUM23L
SAE & UNS	12L14 & G12144

Dimensional Tolerances:

Bright drawn / Smooth turned: **h10**

Plating: Will electroplate but not suitable for hot dip galvanising.

Welding: Must be carried out in a well ventilated environment or avoided as the lead will give off toxic fumes. Ref AISI 1215 for details

Typical Mechanical Properties – for guidance only

Finish	Yield Strength MPa	Tensile Strength MPa	Elongation %	Hardness HB
Bright Drawn	290 – 550	400 – 650	7 min	115 – 200
Smooth Turned	230 – 310	370 – 500	17 min	100 – 150

Material supplied to chemical analysis only

Typical Chemical Analysis

Carbon	0.07%
Silicon	0.01%
Manganese	1.00%
Phosphorus	0.05%
Sulphur	0.30%
Lead	0.25%

Manganese/Sulphides plus the lead addition assist chip formation, friction and wear on cutting tool is reduced, allowing higher feeds and/or speeds.

Hot or cold forming is limited due to the high sulphur content.

Not suitable for through hardening flame or induction hardening due to the low carbon content.

Will **Carburise** or **Carbonitride** –
Typical surface hardness to **HRC 58**.
Ref AISI 1215 for details