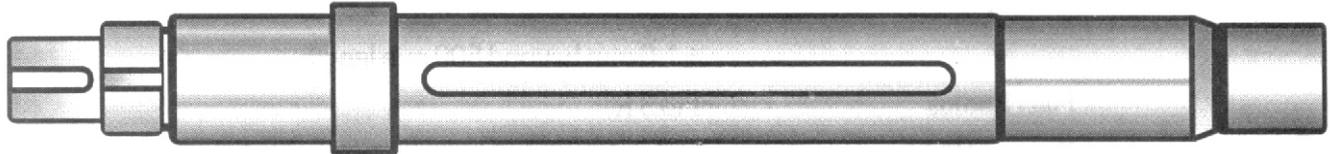




## Dee Tee Shafts - *Safe Production, Sure Operation*



Shafts are machine members, mostly circular in cross-section, which support the revolving parts of a machine, such as Tube Mill Roll, pulley, gear, fly-wheel, etc. Shaft not only supports a revolving part but also transmits torque. As a result, the shaft is subjected to bending as well as torsional stress.

In a good quality shaft the following properties are desired:

1. Good combination of toughness & wear resistance.
2. Low sensitivity to stress concentration.
3. Ability to withstand heat.
4. Good machinability.
5. Good fatigue strength.

After hardening, shafts are accurately ground and sometimes chrome plated as per requirement. Excellent geometrical accuracy and surface quality guarantees optimum running characteristic. In addition additional machining like tapping, threading, through holes, etc. can also be done.

Dee Tee manufactures shafts for Tube Mill, Section Mill, Slitting Machine, Special Purpose Textile Machine, Packaging Machine, Printing Machine, Gear Boxes and various other applications.

A shaft may be safely operated 20 percent above critical speed.

The most common raw material for shaft is EN-24 (Ni-Cr-Mo steel), through hardened. Nickel provides toughness to shaft. These shafts are fully hardened and heat treated to 1240 to 1400 N/mm<sup>2</sup> tensile strength (41-45 Rockwell 'C') in salt bath furnace. After tempering, shafts are accurately ground. EN-18 & EN-19 grades are also popular grades.

According to application, shafts are also manufactured from case hardening steels, common being EN-36, EN-19 and SAE 8620 grade. They are induction hardened. On demand, Dee Tee can offer shafts of En-24 grade duly induction hardened.



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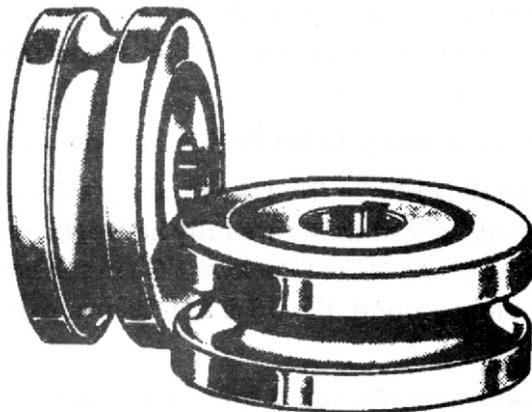
DeeTee stands for total quality movement

## Manufacturing Tolerances For Shaft : (For Tube Mill)

Bearing Seat	-	m-6 on rear side of shaft g-6 on front side of shaft
Length	-	$\pm 0.5$ mm upto 500 mm $\pm 1.0$ mm beyond 500 mm length
Fillet Radius	-	1 to 3 R
Keyway Width	-	Within 0.1 mm
Keyway Depth	-	Within 0.2 mm
Grinding Tolerance	-	Within 0.025 mm

Shaft usually fails due to fatigue, which arises due to:

1. Presence of cyclic load.
2. Stress concentration which may be due to operation, like keyway.
3. Wrong alignment of bearings, drilled holes etc.
4. Presence of heavy load.



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Tools WHICH LAST LONGER - *Slitting Line Tooling, Tube/Section Mill Rolls, Tube Cut Off Knives, Cold Rolling Mill Rolls, Leveller Rolls, Fins, Steel Centers, Chipper Knives, Friction Saws, Shear Blades, H.S.S. Saws & C.T. Saw Bodies.*

