



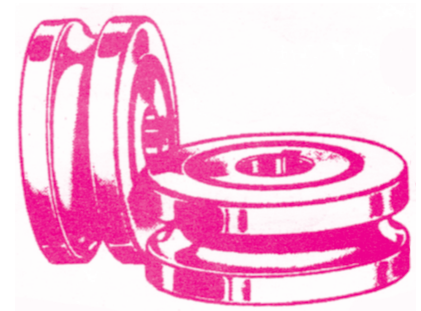
TUBE / SECTION MILL ROLLS, LATEST MANUFACTURING TECHNIQUE

Designing

Rolls are designed using "Copra Software". Thus profiles are scientifically made.

Cutting Raw Material

The raw material is taken 8/10 mm plus on diameter over final size so that all forging defects on O.D. are machined out. Double Column CNC band saw machine is used for faster and accurate cutting.



Blanking and Rough Profiling

Is done on CNC Turning centre so that O.D., I.D. are concentric and face is perpendicular to bore. Template is used for checking profile.

Heat Treatment

Hardening temperature depends upon chemical composition. Rolls are hardened in salt bath. After soaking adequately, rolls are quenched in quenching oil. Rolls are double tempered for uniform structure. After cleaning, hardness is checked in every roll.

Thickness

The thickness of rolls is ground from both sides and checked by micrometer. Equal amount of material is removed from both sides.

Bore

The face outness of rolls is set within 10 microns and then grinding of bore is carried out.

Final Profile

This is the most important operation. Roll is mounted on mandrel which should be tight. Final profile is made within 10 microns accuracy using ceramic inserts on CNC Turning Centre.

Inspection

Final inspection is done meticulously - to ensure a good roll. Template is made on (EDM) wire cut machine.



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DeeTee stands for total quality movement

Recommended manufacturing tolerances for DeeTee Tube Mill Rolls.

		Precision	Extra Precision
Keyway Width		+0.1/+0.4	+0.000/+0.050
Keyway Depth		+0.2/+0.5	+0.000/+0.100
Bore		G7	H6/G6
Bearing Bore		K6	K6
Bearing bore depth		+0.010/+0.050	+0.010/+0.030
Profile Runout wrt. Bore	Upto 150 OD	Within 0.030	Within 0.020
	Upto 300 OD	Within 0.040	Within 0.030
	Upto 400 OD	Within 0.050	Within 0.040
	Above 400 OD	Within 0.070	Within 0.060
Profile Accuracy	Convex	-0.030	-0.020
	Concave	+0.030	+0.020
	VGR	+/-0.030	+/-0.020
Face Runout wrt. Bore	Upto 150 OD	Within 0.020	Within 0.010
	Upto 300 OD	Within 0.030	Within 0.020
	Upto 400 OD	Within 0.040	Within 0.030
	Above 400 OD	Within 0.060	Within 0.060
Roll Thickness	Upto 150 OD	+/-0.020	+/-0.010
	Upto 300 OD	+/-0.030	+/-0.020
	Upto 400 OD	+/-0.040	+/-0.035
	Upto 500 OD	+/-0.050	-
	Upto 600 OD	+/-0.060	-
	Upto 700 OD	+/-0.070	-
	Upto 800 OD	+/-0.080	-
	Upto 900 OD	+/-0.090	-
	Upto 1000 OD	+/-0.100	-
Roll Thickness (VGR)		+/-0.100	+/-0.050
Thickness tolerance for split rolls (each piece)		60% of single piece	+/-0.020
Root Dia.		+/-0.025	+/-0.015
Root Dia. (VGR)		+/-0.100	+/-0.050

Tools WHICH LAST LONGER - Slitting Line Tooling, Tube/Section Mill Rolls, Tube Cut Off Knives, Cold Rolling Mill Rolls, Leveller Rolls, 20 Hi Mill Rolls, Bar Mill Tooling, Fins, Steel Centers, Friction Saws, Shear Blades & C.T. Saw Bodies.

