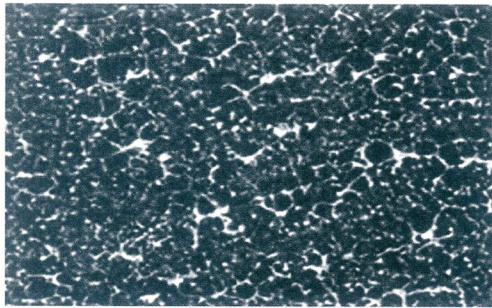


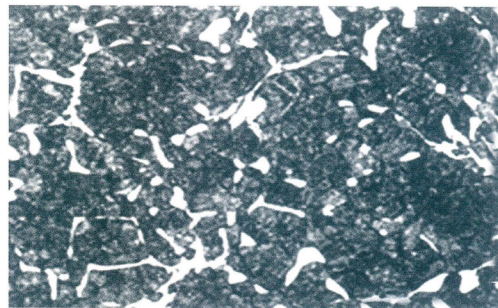
### 3.Semi-HSS,HSS Rolls

#### Chemistry and Surface Hardness

Classification	Chemistry										Barrel Hardness(HSD)
	C	Si	Mn	P	S	Cr	Ni	Mo	V	W	
High speed steel	1.50-2.20	0.30-1.00	0.40-1.20	≤0.030	≤0.025	3.00-8.00	0.00-1.50	2.00-8.00	2.00-9.00	0.00-8.00	75-95
Semi-High speed steel	0.60-1.20	0.80-1.50	0.50-1.00	≤0.030	≤0.025	3.00-9.00	0.20-1.20	2.00-5.00	0.40-3.00	0.00-3.00	75-98



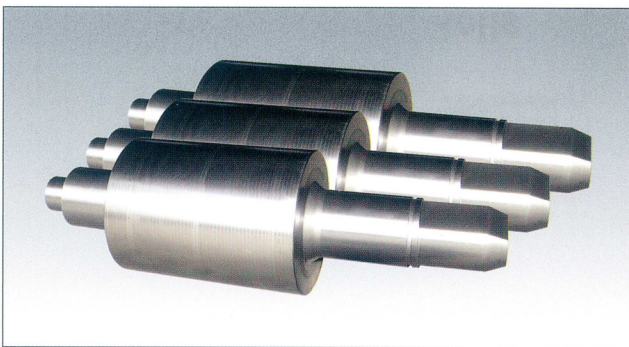
Microstructure



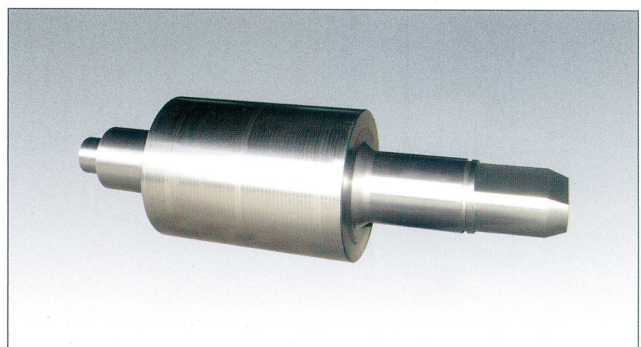
Microstructure

#### Mechanical Property

Classification	Neck hardness(HSD)	Tensile strength core(N/mm <sup>2</sup> )
High Speed Steel	30-45	≥ 350
Semi-High Speed Steel	30-45	≥ 350



Semi-HSS,HSS Rolls



Semi-HSS,HSS Rolls