



ROBERT 21 Pb DIN C 100 + Pb FINE CARBON STEEL + LEAD

CHEMICAL COMPOSITION :

C	0.95-1.05%
Si	0.15-0.20%
Mn	0.18-0.25%
P	0.025% Max.
S	0.025% Max.
Cr	0.40% Max.
Mo	0.10% Max.
Ni	0.40% Max.
Pb	0.15-0.30%

ALLOY DENOMINATIONS :

WN/MATIÈRE DIN N° :	not standardized (1.1274 + Pb)
ROBERT LAMINAGE :	945 or ROBERT 21 Pb
EN : (Pas normalisé)	C 100 S + Pb
DIN : (Pas normalisé)	CK 101 + Pb
AFNOR : (Pas normalisé)	C 100 RR + Pb

PHYSICAL PROPERTIES :

Density 20° C	7.86	Kg/dm ³
Melting point	1400-1500	°C
Modulus of elasticity, longitudinal	210	GPa
Thermal Conductivity	45-55	W/M . K
Electrical Conductivity	7.7	M/Ω mm ²
Electrical resistivity	0.13	Ω mm ² /M
Coefficient of linear expansion from 20 up to 300°C	12 x 10 ⁻⁶	°C ⁻¹
IACS (International Annealed Copper Standard)	13	%

WORKABILITY :

Coldworking	Good
Machining	Very Good
Polishing	Good
Annealing temp.	650-750 °C
Non cémentable	

MAIN APPLICATIONS :

Watch components, dials, hands, tirettes, ponts
Carbon steel for machining

THERMAL TREATMENT :

Oil soaked 790 - 820 °C

QUALITY OF EDGES :

Slit edges

CONDITIONING :

a) In coils

AVAILABLE SIZES :

Widths	from 2 up to 118mm
Thickness	from 0.01 up to 3.0mm

TOLERANCES :

Depending on product



MECHANICAL PROPERTIES :

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ROBERT LAMINAGE NORM

TEMPER	Vickers hardness	Rm (MPa)
Soft	145-175	500-620
1/4 hard	170-200	600-680
1/2 hard	195-220	660-750
3/4 hard	215-245	730-850
hard	240-270	830-950
Extra hard	260-290	930-1050