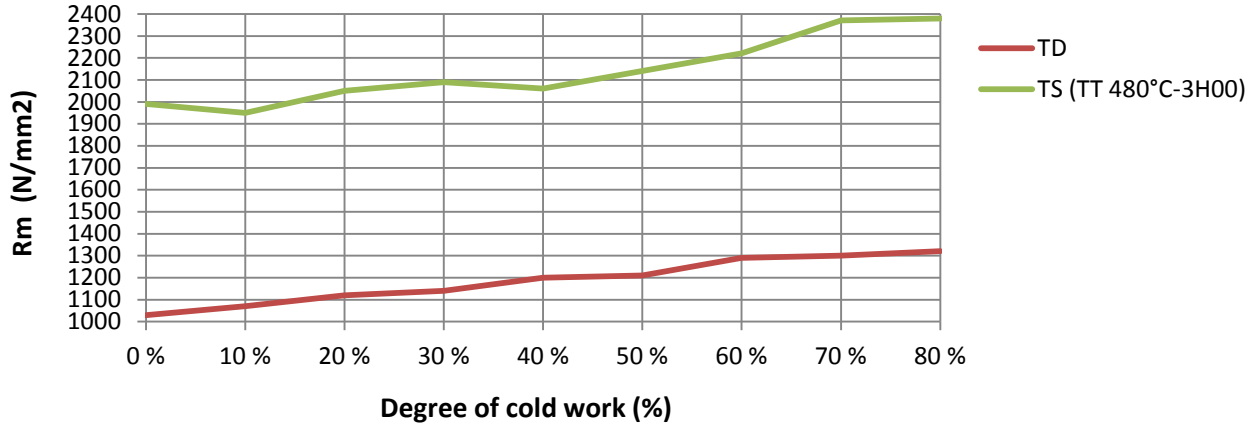
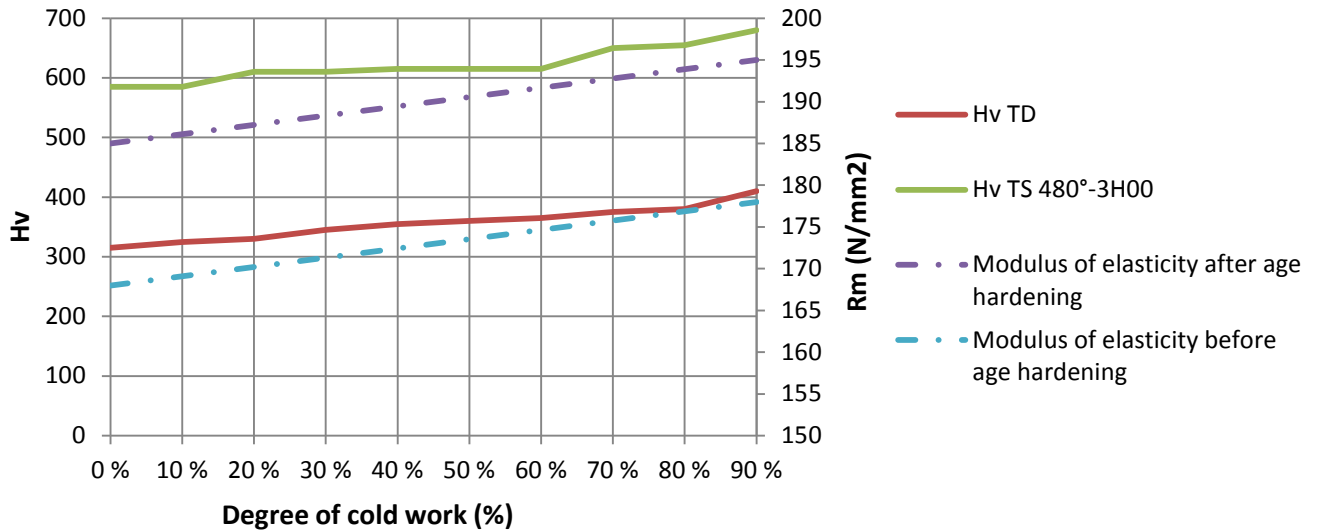


**MECHANICAL PROPERTIES : RODUR / DURIMPHY / NIMARK 300**

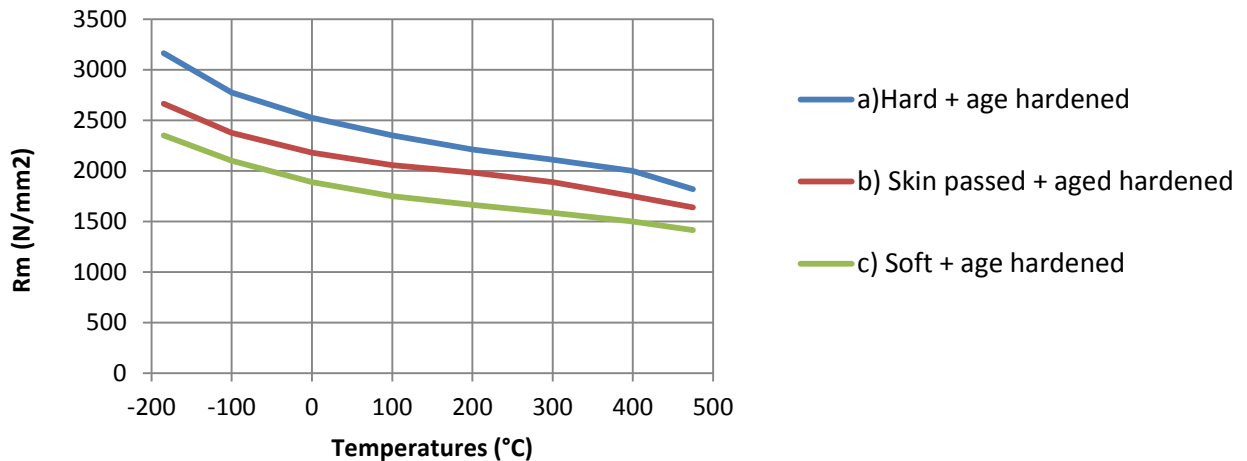
**MECHANICAL RESISTANCE (Rm)**

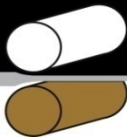


**Hardness and modulus of elasticity, longitudinal**



**INFLUENCE OF TEMPERATURE**





**RODUR / DURIMPHY / NIMARK 300**

**Maraging steel DIN 1.6358**

**AGE HARDENING**

**CHEMICAL COMPOSITION : EN 10132-4**

<b>Ni</b>	<b>17 - 19 %</b>	<b>Al</b>	0,05-0,15
<b>Co</b>	<b>8 - 10 %</b>	<b>Mn</b>	≤ 0,10
<b>Mo</b>	<b>4.5 - 5.5 %</b>	<b>Si</b>	≤ 0,10
<b>Ti</b>	<b>0.5 - 0.8 %</b>	<b>C</b>	≤ 0,03
<b>Fe</b>	<b>Balance</b>	<b>P</b>	≤ 0,01
		<b>S</b>	≤ 0,01

**ALLOY DENOMINATIONS :**

WN/MATIÈRE DIN N° :	1.6358
ROBERT LAMINAGE :	970 RODUR/ROBERT 33
EN / DIN :	X2 Ni Co Mo 18-9-5
AFNOR :	Z2 NKDT 18-9-5
NORME ASTM :	A579
NORME UNS :	K93120

**PHYSICAL PROPERTIES :**

Density 20° C	8.1	Kg/dm <sup>3</sup>	
Modulus of elasticity	185	Gpa/mm <sup>2</sup>	Hardened
Modulus of elasticity, longitudinal	195	Gpa/mm <sup>2</sup>	Hardened
Poisson ratio	0.3		
Thermal conductivity at 20°C	19.7	W/M . K	Hardened
Linear dilatation coefficient from 0°C to 100°C	9.5 x 10 <sup>-6</sup>	°C <sup>-1</sup>	Hardened
Electrical resistivity	0.44	Ω mm <sup>2</sup> /M	Hardened
Curie temperature	≈ 450	°C	

**WORKABILITY :**

Coldworking	Very good	Brazing	Good
Machining	Good	Welding	Good
Polishing	Good	Stamping	Good
Surface nitration	Good		

**CONDITIONING :**

- a) In coils
- b) Cut to length, from 0.5 up to 3 m

**TOLERANCES :**

Depending on product

**MAIN APPLICATIONS :**

Spring for watch industry, spring for various applications  
Wheels, bridges, connectors  
Various parts subjected to high stresses

**QUALITY OF EDGES :**

Slit edges  
Parts for aerospace applications  
Belts for CVT transmission  
Rocket fins

**AVAILABLE SIZES :**

Widths: from 2 up to 350mm  
Thickness: from 0.008 up to 2.9mm

**MECHANICAL PROPERTIES (delivery state):**

Temper			Heat treatment	Rm (MPa/mm <sup>2</sup> )	Hv
R1000	H310	soft	-	1000-1200	310-345
R1050	H310	skin passed	.	1050-1250	310-350
R1300	H360	hard	.	> 1300	> 360
After hardening (at th customer)					
R1800	H500	traité sur mou	3h at 480°C	1800-2100	500-600
R1900	H520	skin passed + hardened	3h at 480°C	1900-2100	520-600
R2200	H600	hard + hardened	3h at 480°C	> 2200	> 600

CERTIFIÉ ISO 9001: 2008