

## Durphynox for TVC Springs

DURPHYNOX is a martensitic stainless maraging steel. In the annealed condition, this alloy is relatively soft and easily formable. High yield strengths can be developed by a precipitation hardening treatment of 480°C to 540°C.

### 1. CHEMICAL COMPOSITION (Weight %)

Element	Ni	Cu	Cr	Ti	Fe
Typical value	8,5	2,0	12,0	1,1	Balance

### 2. PHYSICAL PROPERTIES (typical values)

Density (g/cm <sup>3</sup> )	Resistivity (μΩ.cm)	Saturation induction (T)	Thermal expansion between 20°C and 100°C (10 <sup>-6</sup> /°C)	Thermal conductivity (W/m/°C)
7,76	90	1,6	10,6	20,0

### 3. MECHANICAL PROPERTIES (typical values)

Metallurgical state	Hardness (HV)	Rp0,2% (MPa)	Rm (MPa)	A%
Annealed (delivery state)	325	985	1025	7,5
After age hardening treatment of 3h at 480°C	570	1775	1795	5,5
After age hardening treatment of 3h at 500°C	560	1735	1765	6,5
After age hardening treatment of 3h at 520°C	535	1645	1685	8,5
After age hardening treatment of 3h at 540°C	485	1480	1530	10,5

### 4. DIMENSIONS

Typical thickness (mm)	Thickness tolerance	Width tolerance (mm)			
		W ≤ 100	100 < W ≤ 150	150 < W ≤ 300	300 < W ≤ 620
0,40	+/- 5%	-0/+ 0,20	-0/+0,30	-0/+0,40	-0/+0,50
0,50	+/- 5%	-0/+ 0,20	-0/+0,30	-0/+0,40	-0/+0,50
0,60	+/- 5%	-0/+ 0,20	-0/+0,30	-0/+0,40	-0/+0,50
0,635	+/- 5%	-0/+ 0,20	-0/+0,30	-0/+0,40	-0/+0,50

## 5. **FORM**

	<b>Annealed</b>
Edge burr	≤ 10% of the thickness
Edgewise curvature	≤ 3mm/m

## 6. **COILS WEIGHT**

<b>Coils weight</b>	<b>Order ≥ 500 kg</b>	<b>Order ≥ 1000 kg</b>	<b>Order ≥ 3000 kg</b>
80% of the delivery	≥ 0,8 kg per mm wide	≥ 1,6 kg per mm wide	≥ 2 kg per mm wide
20% of the delivery	-	≥ 0,75 kg per mm wide	1 to 2 kg per mm wide
typical weight	-	2 kg/mm wide	4 to 5 kg per mm wide

➤ Packaging must be suitable to prevent the metal from damage during transportation or stocking in normal conditions

## 7. **CERTIFICATE**

Chemical composition: Ni, Cu, Cr, Ti

Mechanical properties (delivery state): Hardness, Rm, Rp0,2%, A%

## 8. **NORM**

AMS 5860