

Distribution Solutions  
WireSolutions



ArcelorMittal

Product catalogue  
Crapal® Trellising





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In accordance with the recommendations of the International Labour Organization, our coils have a standard weight of 25 kg. However, on request, we can deliver our products in other packagings. Please contact us!

# WireSolutions

85 years experience in the vineyard trade.

WireSolutions is the wire drawing division of ArcelorMittal and is one of the world's largest wire drawers.

WireSolutions offers a diversified portfolio of high and low carbon wire, strands, wire ropes, fencing, steel fibres for concrete reinforcement, nails and corrosion resistant solutions.

WireSolutions is the only vineyard wire producer worldwide with 85 years experience. We introduced our first vineyard wire in the 30's with the famous brand Crapo®. In order to meet winegrowers' needs, we innovated and developed the specific Crapal® process in the mid-80. Today, with our customers, we celebrate 30 years of success story!

This experience and collaboration with our customers give us this unique knowledge to produce the perfect vineyard wire. Something that winegrowers recognise worldwide.

Our expertise in corrosion resistant solutions and our commitment to reduce the environmental footprint of our products led us to further innovate with Crapal® Optimum, designed to last as long as the vine life.

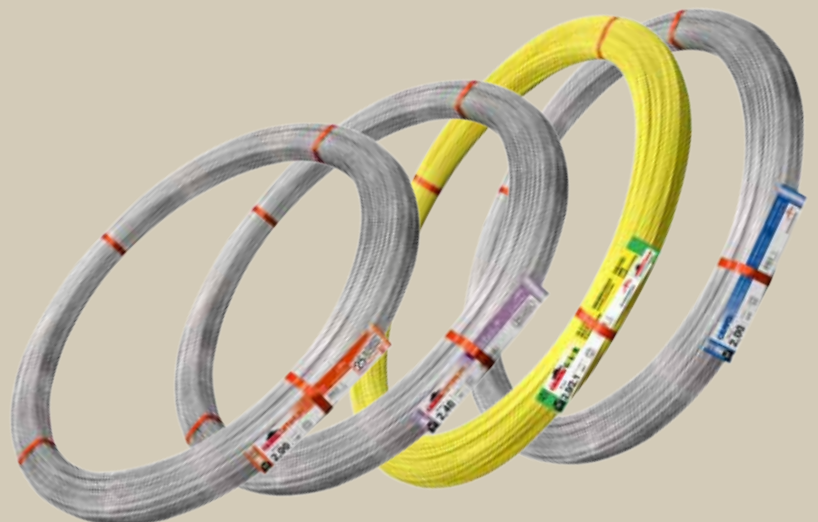
WireSolutions is the wire drawing division of ArcelorMittal, the world's leading steel company... What does it mean?

- ▶ Sustainable access to **high quality raw materials**
- ▶ **Quality control through the entire supply chain**, from iron ore to finished products
- ▶ **Close partnership with ArcelorMittal Research Centres** for the development of innovative products
- ▶ All our wires are produced according to **ISO 9001<sup>1</sup>**, **ISO 14001<sup>2</sup>** and **OHSAS 18001<sup>3</sup>**

<sup>1</sup> Internationally recognised standard for the Quality management of businesses

<sup>2</sup> Internationally recognised standard for the Environmental management of businesses

<sup>3</sup> Recognised specification that structures the implementation of an effective Occupational Health and Safety management system



# What is Crapal® ?

Nowadays many wires are available on the market. Why Crapal® is so appreciated by winegrowers?

## Lifespan

The wire lifespan is determined by the lifetime of the coating layer that protects the wire.

## Corrosion

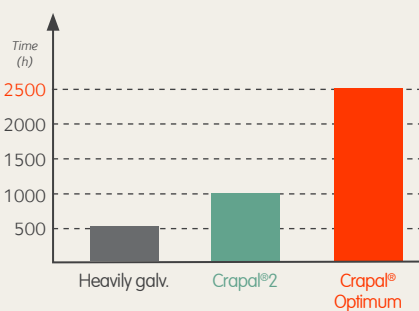
The coating is subject to damages depending on the corrosive potential of the air and on the aggressiveness of the chemicals used for treatments.

## The Crapal® coating

Zinc gives an active and sacrificial protection while aluminium provides passive protection in covering zinc and significantly slowing down its sacrificial reaction.

**Magnesium (Crapal®Optimum) reinforces the structure and gives the wire an outstanding life span.**

## Salt spray test resistance



## Properties

### Corrosion resistant solution

- ▶ Durable smooth surface
- ▶ Less damage to the plant

### Concentricity

- ▶ The required protection is only guaranteed if the protective layer is constant all around the wire

### Environment

- ▶ Less zinc oxides in the ground
- ▶ CO<sub>2</sub> Footprint over time



## Economical advantages

### When you buy Crapal®

- ▶ More meters per kg of wire

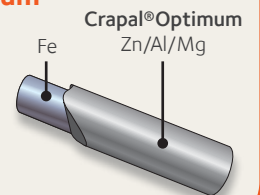
### When you install Crapal®

- ▶ Labor cost (less coils used per ha)
- ▶ Less re-tensioning required
- ▶ No breaks if correct use

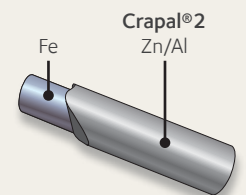
### Savings over time

- ▶ Long life span of Crapal®
- ▶ Even if coating is damaged, Crapal® resists to corrosion much longer than traditional wire

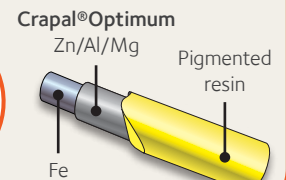
## Crapal®Optimum



## Crapal®2



## Crapal®Color





# Crapal® Optimum

## A quality never reached until now!

### Product description

- ▶ Zinc/Aluminium/Magnesium coating
- ▶ Long lasting smooth surface
- ▶ High tensile strength and breaking load
- ▶ Reduced elongation
- ▶ More usable metres per coil for the same weight
- ▶ Important savings per hectare thanks to the reliable quality of the wire
- ▶ Eco-friendly product



### Characteristics

#### Packaging

- ▶ Coils of 25 kg delivered in bundles of 500 kg
- ▶ Internal diameter of 600 mm

#### Specifications

- ▶ Comparison of Crapal® Optimum with EN 10244-2 heavily galvanised wire:

Diameter (mm)		Number of ml per coil (approx.)		Resistance (N/mm <sup>2</sup> )		Breaking load (kg - approx.)		Elongation (%)	
Heavily galv.	Crapal® Optimum	Heavily galv.	Crapal® Optimum	Heavily galv.	Crapal® Optimum	Heavily galv.	Crapal® Optimum	Heavily galv.	Crapal® Optimum
2.20	1.80	830	1250	400/500	700/900	170	205	20	10
2.40	2.00	700	1000	400/500	700/900	205	250	20	10
2.70	2.20	550	830	400/500	700/900	255	305	20	10
3.00	2.50	450	650	400/500	700/900	315	395	20	10
3.40	2.80	355	515	400/500	700/900	410	495	20	10
3.90	3.15	275	410	400/500	700/900	535	625	20	10
-	3.40	-	355	-	700/900	-	725	-	10

# Arbolu®

## Specially developed for arboriculture

### Product description

- ▶ Zinc/Aluminium/Magnesium coating
- ▶ **Stability over time:** the high yield stress limit of Arbolu® avoids retensioning
- ▶ **High mechanical resistance:** Arbolu® supports heavy load and high traction without breakage
- ▶ Long lasting smooth surface
- ▶ Eco-friendly product



### Characteristics

#### Packaging

- ▶ Coils of 25 kg delivered
- ▶ Smooth wire delivered by 20 in bundles of 500 kg; undulated wire delivered by 8 in bundles of 200 kg
- ▶ Internal diameter of 600 mm

#### Specifications

Wire	Diameter (mm)	Number of ml per kg	Number of ml per coil	Resistance (N/mm <sup>2</sup> )	Breaking load (kg)	Elongation (%)
Smooth	2.40	28	700	1300/1500	635	6/8
Smooth	2.70	22	550	1300/1500	800	6/8
Smooth	3.00	18	450	1300/1500	990	6/8
Smooth	3.50	13	325	1300/1500	1345	6/8
Smooth	3.90	11	275	1300/1500	1670	6/8
Undulated	2.40	26	640	1300/1500	635	6/8*

\* on original smooth wire  
 Undulation length: 30 mm – Undulation height: 5 mm  
 Max. tensile strength recommended during installation: half the breaking load indicated in this table



# Crapal® Optimum TOP 50

## Proven Crapal® Optimum quality further refined

### Product description

- ▶ Zinc/Aluminium/Magnesium coating
- ▶ Long lasting smooth surface
- ▶ High breaking load, low elongation
- ▶ Eco-friendly product



### Characteristics

#### Packaging

- ▶ Coils of 25 kg delivered in bundles of 500 kg
- ▶ Internal diameter of 600 mm

#### Specifications

- ▶ Comparison of Crapal® Optimum TOP 50 with EN 10244-2 heavily galvanised wire:

Diameter (mm)		Number of ml per coil (approx.)		Resistance (N/mm <sup>2</sup> )		Breaking load (kg - approx.)		Elongation (%)	
Heavily galv.	Crapal®Opt. TOP 50	Heavily galv.	Crapal®Opt. TOP 50	Heavily galv.	Crapal®Opt. TOP 50	Heavily galv.	Crapal®Opt. TOP 50	Heavily galv.	Crapal®Opt. TOP 50
2.70	1.60	550	1575	400/500	1300/1500	255	260	20	3
3.00	1.80	450	1250	400/500	1300/1500	345	330	20	3
3.10	2.00	420	1000	400/500	1300/1500	340	380	20	3
3.40	2.20	355	825	400/500	1300/1500	410	460	20	3
3.90	2.50	275	650	400/500	1300/1500	535	590	20	3
4.50	2.80	210	525	400/500	1300/1500	715	740	20	3
-	3.15	-	400	-	1300/1500	-	935	-	3





**New!**

# Crapal® Optimum TOP 50 PLUS

## For viticulture and arboriculture

### Product description

- ▶ Zinc+Aluminium+Magnesium coating
- ▶ Long lasting smooth surface
- ▶ High breaking load
- ▶ High ductility allowing easy handling
- ▶ Eco-friendly product



### Characteristics

#### Packaging

- ▶ Coils of 25 kg delivered in bundles of 500 kg
- ▶ Internal diameter of 600 mm

#### Specifications

Diameter (mm)	Number of ml per coil (approx.)	Resistance (N/mm <sup>2</sup> )	Breaking load (kg - approx.)	Elongation (%)
1.80	1250	1000/1300	290	5
2.00	1000	1000/1300	360	5
2.20	830	1000/1300	430	5
2.50	650	1000/1300	540	5
2.80	525	1000/1300	680	5
3.15	410	1000/1300	850	5

\* 3.40 mm and 3.80 mm available on request



# Crapal® Optimum TOP 100-V

## The new generation of vineyard wire

### Product description

#### Unequalled cost/performance ratio:

- ▶ Zinc/Aluminium/Magnesium coating
- ▶ Low carbon steel wire with a 1700-1900 N/mm<sup>2</sup> tensile strength
- ▶ High ductility, high breaking load
- ▶ Long lasting smooth surface
- ▶ Unequalled average unit cost/ha
- ▶ Perfect alternative to AISI 304 Inox wire
- ▶ Breaking load three times higher than regular galvanised wires
- ▶ Eco-friendly product



### Characteristics

Diameter (mm)	Nber of ml per kg (approx.)	Resistance (N/mm <sup>2</sup> )	Breaking load (kg - approx.)	Packaging (kg/roll)	Nber of ml per roll (approx.)
1.40	83	1700-1900	275	25	2075
1.60	63	1700-1900	360	25	1575
1.80	50	1700-1900	460	25	1250
2.00	40	1700-1900	575	25	1000
2.20	33	1700-1900	685	25	825
2.50	26	1700-1900	880	25	650
2.80	21	1700-1900	1110	25	525

### Comparative table

Applications	Galvanised wire Ø (mm)	Crapal® Optimum Ø (mm)	TOP 50 Ø (mm)	Filo Inox AISI 304 Ø (mm)	TOP 100-V Ø (mm)
Vineyard	2.70	2.20	1.80	1.40	1.40
Vineyard	3.00	2.50	2.00	1.60	1.60
Vineyard/Orchard	3.40	2.80	2.20	1.80	1.80
Vineyard/Orchard	3.90	3.10	2.50	2.00	2.00
Vineyard/Antihail	4.40	3.40	2.80	2.20	2.20
Vineyard/Antihail	4.90	4.00	3.10	2.50	2.50

Specific packaging can be offered (wooden reel, etc.) – Please contact us.



ArcelorMittal

# Crapal® Optimum TOP 100

## The new generation of wire for your anti-hail installation

### Product description

#### Unequaled cost/performance ratio:

- ▶ Zinc/Aluminium/Magnesium coating
- ▶ High carbon steel wire with a 1700-1900 N/mm<sup>2</sup> tensile strength
- ▶ High ductility, high breaking load
- ▶ Long lasting smooth surface
- ▶ Unequaled average unit cost/ha
- ▶ Breaking load three times higher than traditional galvanised wires
- ▶ Eco-friendly product



### Characteristics

#### Packaging

- ▶ Coils of 50 or 100 kg
- ▶ Specific packaging can be offered (wooden reel, etc.) – Please contact us.

#### Specifications

Diameter (mm)	Nber of ml per kg (approx.)	Nber of ml per coil (approx.)	Resistance (N/mm <sup>2</sup> )	Breaking load (kg - approx.)	Packaging (kg/roll)
2.80	21	1050/2100	1700-1900	1110	50 or 100
3.15	16	800/1600	1700-1900	1400	50 or 100
3.40	14	700/1400	1700-1900	1630	50 or 100
3.80	11	550/1100	1700-1900	2040	50 or 100



# Crapal®Color

## The wire that colours your projects!

### Product description

- ▶ Crapal®Optimum quality + pigmented resin
- ▶ Excellent adhesion of the coating
- ▶ High resistance to UV-rays
- ▶ Classified and registered coating according to European standards
- ▶ Eco-friendly product



### Characteristics

#### Packaging

- ▶ Traverse wound coils or wooden reels
- ▶ Specific characteristics can be offered; please contact us

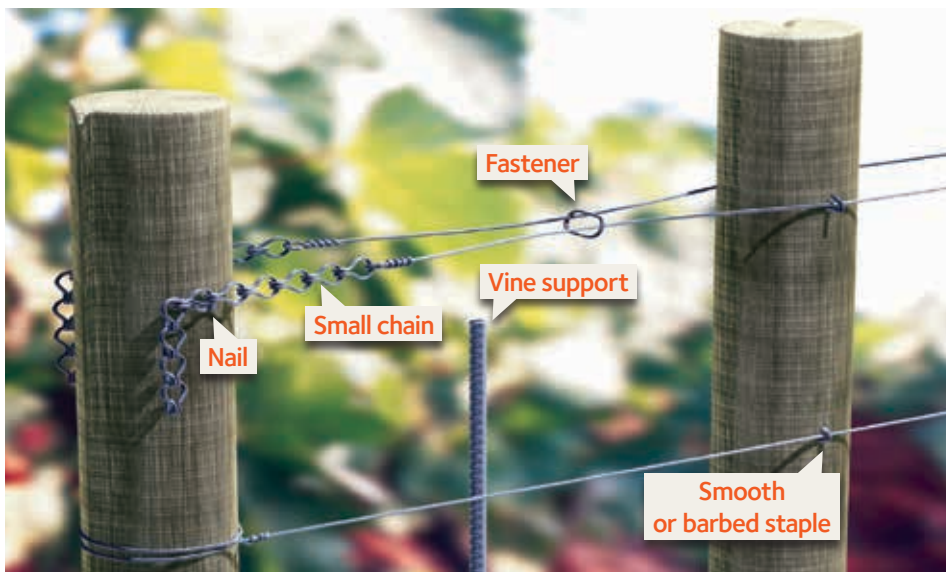
#### Specifications

Diameter (mm)	Length (m)	Weight (kg)	Resistance (kg/mm <sup>2</sup> )	Breaking load (kg)	Elongation (%)	Standard colour
2.10	975	25	40/60	160	20	Yellow
2.10	975	25	70/90	250	10	Yellow

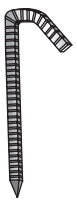


## Accessories

## A complete range



## Characteristics

**Crapal® Hook for pine and wood**

- Square section wire; lateral engagement
- Bucket of 5 kg

▶ 3.4 x 55 mm	800 pieces/bucket (approx.)
▶ 3.4 x 60 mm	750 pieces/bucket (approx.)
▶ 3.4 x 65 mm	700 pieces/bucket (approx.)

**Crapal® Smooth staple**

- Round wire; double bevel cut
- Bucket of 5 kg

▶ 2.7 x 27 mm	2,000 pieces/bucket (approx.)
▶ 3.0 x 30 mm	1,550 pieces/bucket (approx.)
▶ 3.5 x 35 mm	1,000 pieces/bucket (approx.)
▶ 4.5 x 40 mm	550 pieces/bucket (approx.)

**Crapal® Hook for hard wood (e.g. acacia)**

- Smooth wire; square section
- Bucket of 5 kg

▶ 3.4 x 40 mm	1,100 pieces/bucket (approx.)
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**Crapal® Barbed staple**

- Round wire; double bevel cut
- Bucket of 5 kg

▶ 3.0 x 30 mm	1,550 pieces/bucket (approx.)
▶ 3.5 x 35 mm	1,000 pieces/bucket (approx.)
▶ 4.0 x 40 mm	650 pieces/bucket (approx.)
▶ 4.0 x 50 mm	500 pieces/bucket (approx.)

**Vine fastener**

- Traditional galvanised wire
- Bucket of 5 kg

▶ Ø 2.4 mm	2,200 pieces/bucket (approx.)
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**Crapal® Nail for small chain**

- Square section wire
- Bundle of 5 kg

▶ 4.2 x 55 mm	650 pieces/bundle (approx.)
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**Crapal® Small chain**

- 7 links
- Bucket of 4.8 kg

▶ Ø 3.1 mm	100 pieces/bucket (approx.)
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## Support for young vine

### Smooth, undulated or corugated surface

#### Product description

- ▶ Zinc/Aluminium coating
- ▶ Can be reused several times
- ▶ Eco-friendly product
- ▶ Crapal®Optimum (Zn/Al/Mg) available on request



#### Characteristics

- ▶ Specific characteristics can be offered; please contact us.

##### Crapal®2 Smooth support

- ▶ **Ø 5.5 mm (high resistance)**

Length (mm):  
1100, 1200, 1400, 1500

- ▶ Bundles of 100 units packed in 10's on blocks

- ▶ **Ø 7.0 mm**

Length (mm):  
1200, 1300, 1500

- ▶ Bundles of 50 units packed in 10's on blocks

- ▶ **Ø 8.0 mm**

- ▶ Length (mm): 1000, 1200
- ▶ Bundles of 50 units packed in 10's on blocks.

##### Crapal®2 Undulated support

- ▶ **Ø 6.0 mm**

Length (mm): 1200, 1500

- ▶ Bundles of 100 units packed in 10's on blocks

##### Crapal®2 Corugated support

- ▶ **Ø 6.0 mm**

Length (mm):  
1200, 1300, 1400, 1500

- ▶ Bundles of 100 units packed in 10's on blocks

- ▶ **Ø 7.0 mm**

Length (mm):  
1200, 1300, 1400, 1500

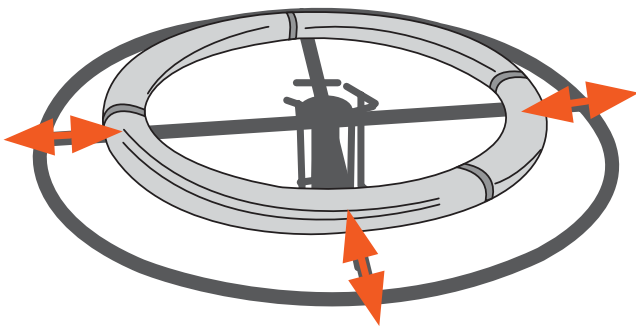
- ▶ Bundles of 50 units packed in 10's on blocks

- ▶ **Ø 8.0 mm**

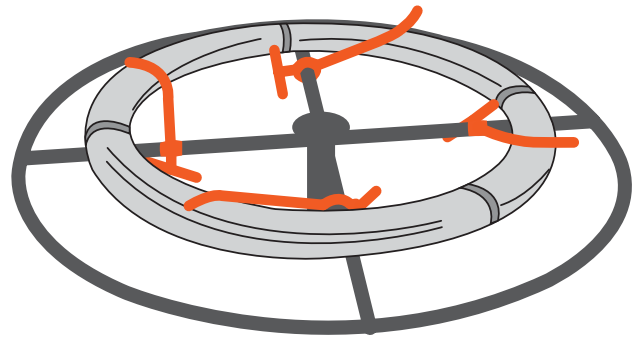
- ▶ Length (mm): 1400, 1500
- ▶ Bundles of 50 units packed in 10's on blocks



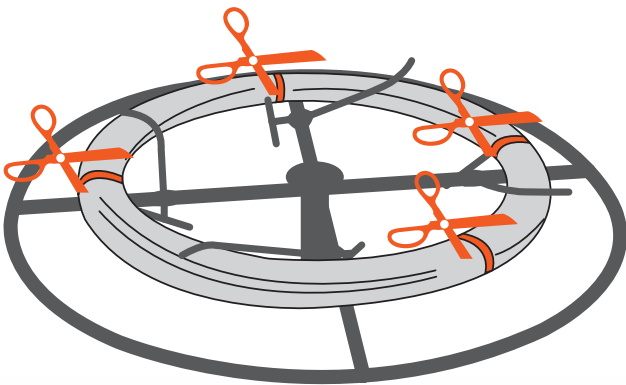
## How to unwind your vineyard wire properly?



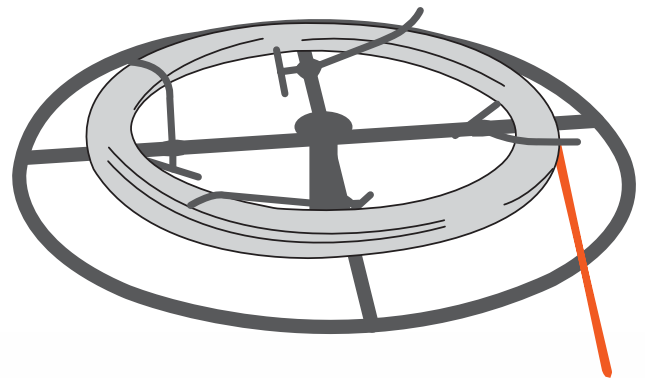
**1.** Place the coil in the middle of the unwinding device



**2.** Fix the brackets in unwinding direction



**3.** Cut the straps once the coil is well fixed



**4.** Smoothly unwind your vineyard wire



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