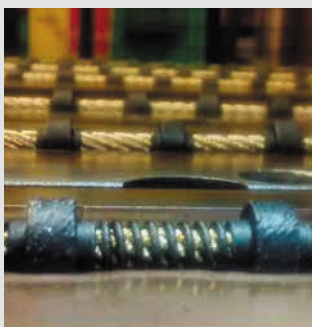


## DIAMOND WIRE FOR CONSTRUCTION





# DIAMOND WIRE

## TECHNICAL DESCRIPTION

SOLGA diamond wire for construction is designed to provide high cutting capabilities and maximum safety, as a result of using high-quality raw materials and manufacturing processes.



## EUROPEAN DESIGN AND MANUFACTURING OF DIAMOND TOOLS

SOLGA DIAMANT, leader in the manufacturing of diamond wires, develops wires continuously to adapt the needs of our customers, focusing the manufacturing in obtaining secure and high quality wires.

In our productive processes we use developed rubbers specially designed to obtain the maximum adhesion on the cable and the beads.

Our HIP sintering offers the best option in cutting armed concrete and iron. Completing the range with manufactured beads through the Vacuum system.

Our commercial technical team will give you support to choose the best wire for specific applications, analyzing the requirement of work, the type of machine available and the material to be cut.

### A- STEEL CABLE

Of high resistance and flexibility. Designed to work with small pulleys, transmitting the torsion easily which helps to optimise the bead usage so that the beads wear evenly

### B- HIGH RESISTANCE SPRINGS

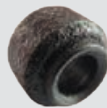
Protects the cable from loose bars to provide extra support between beads

### C- RUBBER

Coating through injection of flexible rubber to protect the cable from abrasion and water, fixing the beads strongly to the cable avoiding its displacement or rotation

## BEAD DESIGN

SOLGA manufactures different types of beads for different types of application.



### HIP BEADS

The beads manufactured through the HIP system provides a high retention of diamond ( 95% retention compared to 50-60% with other processes ), applying pressure on the bead from all directions (through gas) during the sintering. This provides very versatile beads, with high cutting speed and very high performance



### VACUUM BEADS

The beads manufactured using the Vacuum system have the diamond inserted directly on the carrier. This provides an easy-to-use wire since the bead does not need to be regenerated, and does not lose diameter during work. For this reason it is easy to change the wire in a simple and quick way when it wears.

## TABLE OF PERFORMANCE

With a machine of the following characteristics:

POWER = 15-30 HP  
LINEAL SPEED = 18-35 m/s (\*)  
CABLE TENSION = 60-70 KG  
CUTTING SPEED = 1-5 m/h



PERFORMANCE	
<b>X = 0</b>	<b>3-4 m<sup>2</sup>/mt</b>
<b>0 &lt; X &lt; 0,4%</b>	<b>1,5 - 3 m<sup>2</sup>/mt</b>
<b>0,4 &lt; X &lt; 1%</b>	<b>1,5 m<sup>2</sup>/mt</b>
<b>1 &lt; X &lt; 1,5%</b>	<b>1 m<sup>2</sup>/mt</b>

(X) = % of Steel in the material to be cut

(\*) The Speed depends on the material to be cut, hardness and abrasivity.

**Hard Concretes -> Low Speed - Abrasive Concrete -> High Speed**

## TYPES OF BONDINGS

BONDING	DIMENSIONS	MATERIAL	CHARACTERISTICS
<b>N20</b>	Ø10,5 / L = 6 / 40 P/m	ABRASIVE CONCRETE	PRODUCTIVITY
<b>G25</b>	Ø10,5 / L = 6 / 40 P/m	HARD CONCRETE	HIGH SPEED
<b>G25 Steel</b>	Ø10,5 / L = 6 / 40 P/m	HARD CONCRETE / STEEL	HIGH SPEED - PRODUCTIVITY
<b>T3 S-3</b>	Ø11,5 / L = 3 / 40 P/m	ABRASIVE CONCRETE	HIGH PRODUCTIVITY
<b>VACUUM</b>	Ø10 / L = 7 / 40 P/m	CONCRETES	SPEED
<b>VACUUM</b>	Ø10 / L = 7 48 P/m	CONCRETE / STEEL	PRODUCTIVITY

Use the QR code to directly access the digital format of the SOLGA DIAMANT catalogs and see our products in detail.

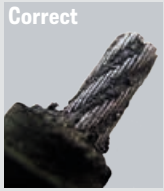


# TORSION OF THE WIRE AND THE PLACEMENT OF THE CONNECTORS



Indispensable need for cutting and for the bead to wear evenly throughout its surface

Correct



Incorrect



## 1. CUT THE WIRE AND REMOVE THE RUBBER

Using a shear, cut the cable about 13 mm from the diamond bead ( needs 10 mm for the connector )

Once cut, completely remove the rubber from the surface of the cable where the connection has to be placed ( as you can see in the image )

## 2. WIRE TORSION

Hold one end of the cable and perform between 1.5 and 2.5 turns per meter of cable. ( It is advisable to provide half the turns from one end and the other half from the other )

## 3. PLACING THE CONNECTORS

- 1- Check that the shape and size of the connectors is suitable and conforms well with the matrix of the press tool.
- 2- Connect according to the instructions of your pressing tool
- 3- Make sure there is no space left without rubber before and after the connector.

## GENERAL RECOMMENDATIONS FOR USE:

1. Round the corners of the area to be cut / 2. Before starting the cut, rotate the wire at low speed and low pressure to facilitate the transmission of the turns along the entire wire / 3. It is recommended that the wire is more than 7m long // **REMEMBER:** Highlight the working area and inspect the wire before using it. Store the wire in a dry place and out of the sun.

# SITUATIONS AND ITS SOLUTIONS

SOLGA presents the possible solutions ( **In black** ) before a determined situation ( **IN RED** ) that can occur in the job to be performed

## DISPLACEMENT OF BEADS



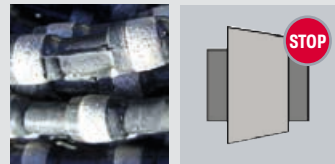
**VERY HIGH TENSION ON WIRE**  
Reduce forward speed

**VERY LOW COOLING**  
Increase cooling

**THE WIRE SKATES IN THE MATRIX PULLEY FOR LACK OF ADHERENCE**  
Increase tension

**BLOCKING OF THE WIRE**  
Use wedges to prevent closures in the area of the cut

## EXCESSIVE CONICITY



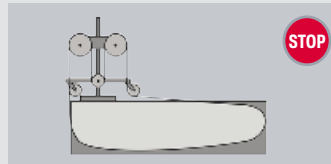
**ABRASIVE MATERIALS**  
Use a bead more suitable for abrasive materials

**SMALL CUTTING SURFACE**  
Increase peripheral speed and reduce forward speed

**LOW / INCORRECT COOLING**  
Increase cooling

**LOW PERIPHERAL SPEED**  
Increase peripheral speed

## THE WIRE DOESN'T START TO CUT



**VERY HIGH TENSION ON WIRE**  
Reduce forward speed

**VERY PRONOUNCED CORNERS**  
Round corners

**DIFFERENCES IN DIAMETER ALONG OF THE THREAD**  
Only use wires with diameters with differences not exceeding 0,2mm

**THE ANGLE OF CONTACT IS LARGE**  
Use guide pulleys

## PLANNED WIRE



**NUMBER OF TURNS PER METER INSUFFICIENT**  
Increase the number of turns

**EXCESSIVE TENSION ON WIRE**  
Reduce the forward speed

**LOW REFRIGERATION**  
Increase cooling

**INSUFFICIENT DISTANCE BETWEEN PULLEY AND THE CUTTING AREA**  
Increase the distance

## THE WIRE DOES NOT CUT OR CUTS VERY SLOWLY



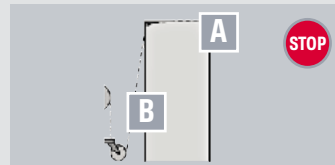
**VERY HARD MATERIALS**  
Reopening with abrasive materials and /or reducing the peripheral speed

**VERY LARGE CUTTING SURFACE**  
Reduce the cutting surface using guide pulleys

**HIGH PERIPHERAL SPEED**  
Reduce peripheral speed

**VERY REINFORCED CONCRETE**  
Reduce peripheral speed or use an appropriate bonding

## BREAKS IN THE WIRE



**WIRE TENSION IS HIGH**  
Lower the forward speed

**(A) CORNERS ARE VERY ACUTE**  
Round corners

**(B) THE ANGLE IS VERY ACUTE IN THE ENTRANCE OF THE CUT**  
Increase the cooling

**STRONG VIBRATIONS IN THE CONNECTORS**  
Verify the balance and the wear of the pulleys

## SLIPPING/ESCAPE IN THE AREA OF THE CONNECTOR



**INCORRECT PRESSURE OR IMPROPER CONNECTOR**  
Use the correct match between press and connector

**HIGH TENSION ON WIRE**  
Reduce forward speed

**VERY ACUTE CORNERS**  
Round corners

**VERY ACUTE ANGLE IN THE ENTRANCE OF THE CUT**  
Use guide pulleys

## DIAMOND ON THE BEAD



**PERIPHERAL SPEED**  
(A) INCREASE Speed (B) LOWER Speed

**COOLING (WATER)**  
(A) Water is little (B) Water is too much

**ADVANCE OF THE MACHINE**  
(A) Increase (B) Decrease

# TOOLS



**1. CORE DRILLS**



**5. DIAMOND BLADES FOR NATURAL AND ARTIFICIAL STONES**



**10. SURFACE PREPARATION**



**2. FLOOR SAW BLADES**



**6. DIAMOND WIRE FOR NATURAL STONE**



**11. DRY CUTTING BLADES**



**3. WALL SAW AND PRECAST DIAMOND BLADES**



**7. POLISHING TOOLS FOR NATURAL STONE**



**12. TABLE SAW BLADES (WET CUTTING)**



**4. DIAMOND WIRE FOR CONSTRUCTION**



**8. ROUGHING CUTTERS FOR MARBLE AND GRANITE**



**13. GRINDING RINGS FOR CALIBRATING**



**9. GANG SAW FOR MARBLE AND SANDSTONE**

**AUTHORIZED SELLING POINT**



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