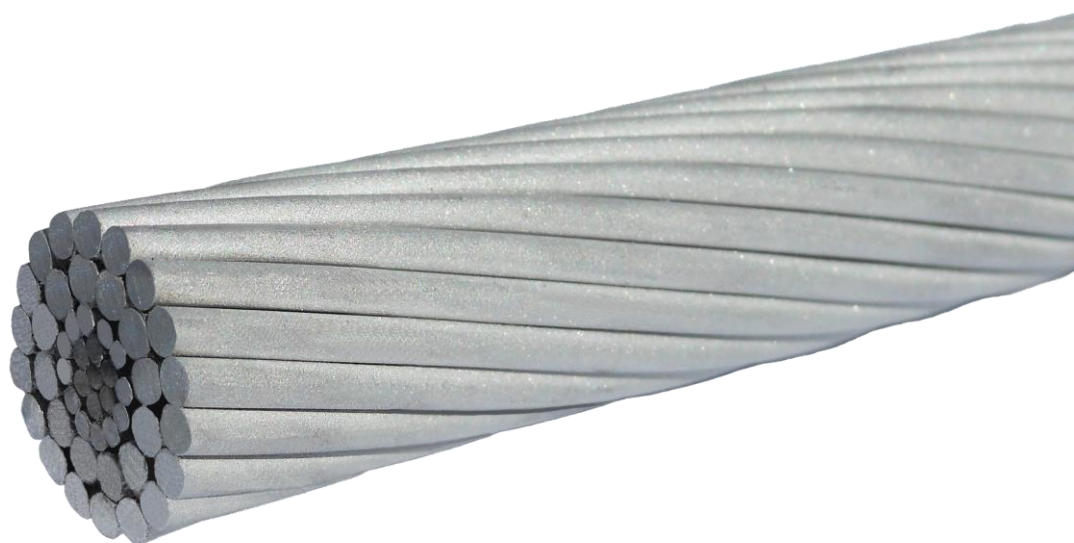


# New Technologies

## Sandblasted Conductors



**INSPIRED BY SILENCE**

## Sandblasted Conductors

Design / Research and Develop Department

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### ABSTRACT

De Angeli Prodotti and our partner have developed a new technological improvement on the surface by sandblasting the conductor. A new production line at our site utilises the best technologies in the market to perform a well known process to meet client satisfaction.

### INTRODUCTION

Generally the conductor is not treated and can be either hard or annealed aluminium. The surface doesn't have a specific treatment and the conductor is quite easy to produce.

For a particular request from one customer, De Angeli Prodotti accepted the challenge to produce a hydrophilic conductor. After one year of research and development, all the parameters were met and defined and a new production line installed in the factory.

One solution for different problems.

### ENGINEERING

De Angeli Prodotti has developed the process to give a rough surface on the conductor.

The untreated conductor is hydrophobic, because of the presence of a thin layer of drawing oil on the surface.

The sandblasting phase has the purpose to remove the oil and to give the correct surface roughness.

The process is well-known and treatment is uniform on the whole surface.

We can use different kind of sand (corundum or steel) and different mesh to reach the customer specifications.

### ADVANTAGES

Why should you choose to sandblast the conductor? There are different reasons.

If you sandblast the conductor you will have an increase of emissivity, i.e. more ampacity at the same operating temperature!

If you sandblast the conductor, you will have a hydrophilic surface on conductor. This characteristic is important for the *corona effect*. Some studies show that there is a reduction in noise of about **7dB**.

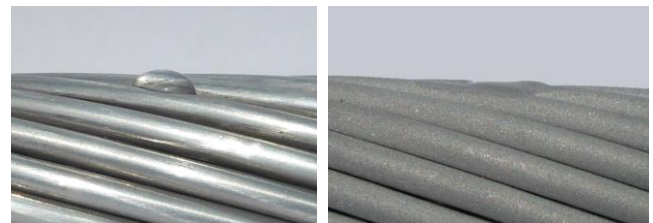


Figure 1. Water drop on a hydrophobic conductor (left) and on a hydrophilic conductor (right)

### CONCLUSIONS

De Angeli Prodotti has developed this surface treatment to improve the characteristic of conductors both for HTLS and for traditional conductors (AAAC, ACSR).

This technology is well known to us and is available for marginal expense.