



VERTIC ZINC WIRES

for Thermal Spraying

Based on long experience in producing continuous casting systems Vertic Zinc Wire Oy produces zinc wire in top quality (high grade) in all common diameters and

packing for the flame- and arc spray processes. We use the unique Vertic system (continuous upward casting) to manufacture wires and rods.

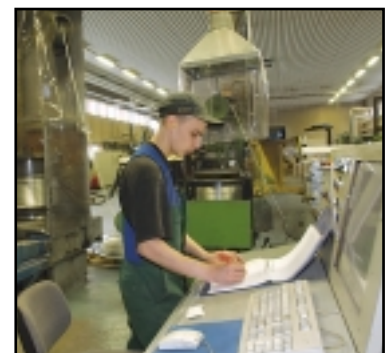
When Flame gun is used we recommend Vertic S wire to be used.	In case of Electric arc gun either Vertic S or Vertic M are utilised.	With long hoses or when Al and Zn are sprayed simultaneously Vertic H wires are recommended.	
	S	M	H
Tensile strength N/mm ²	<100 (±5)	100-120 (±5)	>120 (±5)
Elongation at rupture	60-100 %	40-80%	30-60%

Spraying of zinc on iron and steel objects of almost any size or shape is the principal application of the thermal spray process (anti corrosion). Unlike barrier systems like painting, sacrificial systems like zinc coatings give barrier protection but in addition offer positive electrolytic shielding. The galvanic electrochemical nature of sacrificial zinc coatings cause them to corrode in preference to iron and steel - even if the steel is exposed to environment. This is a tremendous advantage over paints and other organic barrier coatings which usually fall after a certain amount of time through rusting underneath the film. Zinc wire is also used in capacitor technology.



Sprayed Zinc coatings have many advantages, e.g:

- Their life is long and predictable. A typical 120 micron zinc coating has a demonstrated life of more than 25 years in normal environment.
- The thickness of coating can be varied at will and selected to suit any requirements.
- There is no limit for the size of the workpiece to be coated like it is in hot dip galvanizing.
- No drying time is needed. Surface coating operations, if required, can be started immediately after zinc spraying.
- The surface to be coated does not get warm, so there are no alterations in the structure due to the heat.



VERTIC ZINC RODS

for Vacuum Applications

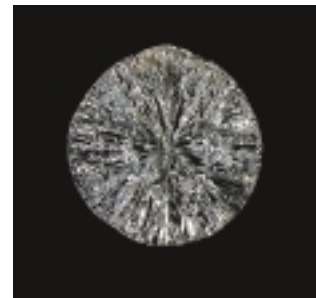
Do you need clean and pure Zinc Rods for vacuum applications? We make them!

In vacuum applications metallic impurities are very damaging for uniform products and high conductivity. That is why only virgin Special High Grade (Zn>99,995%) ingots are accepted in manufacturing of VERTIC ZINC RODS to guarantee the specially high purity of the products. Also the amounts of Cd and Pb are minimal, far under the recommendations.

The special VERTIC manufacturing process ensures cleanliness with absolutely no lubricant residuals present as in vacuum zinc produced by other methods.



As apparent on the crystal structure, the rods are not processed in any way. That is why there are no lubricant residuals on the surface, and the rods are absolutely clean.



Mechanical characteristics: "As Cast"

Chemical composition of VERTIC products

Element	Nominal	Typical
Al		<0,0001
Fe	<0,002	<0,0002
Cu	<0,001	<0,0003
Cd	<0,003	<0,0006
Sn	<0,001	<0,0000
Pb	<0,003	<0,0012

Density	7,140g/cm ³
Melting point	419,6 °C
Boiling point	907 °CmΩ
Electrical conductivity	0,166 10 ⁶ /cm
Thermal conductivity	1,16 W/cmK

All VERTIC products are quality certified according to SFS-EN ISO 9001:2000.

Only Special High Grade (Zn>99,995%) virgin zinc ingots from selected producers are accepted as raw material.

Thus we can be sure of the excellent quality and low contents of e.g. Cd and Pb in our wires and rods.

