

# (SHG) 99.995% Special High Grade Zinc



**SHG OR SPECIAL HIGH GRADE ZINC** is one of Boliden's core products. Boliden's special high grade zinc is produced by an electrolytic process in our world-class smelters in Kokkola, Finland and Odda, Norway. Our annual production exceeds 450 000 tonnes, making us the sixth biggest producer in the world.

Boliden's zinc meets the quality requirements for Special High Grade (SHG) with 99.995 percent Zn purity - or higher from the London Metal Exchange. With a level of total impurities below 0,005%, it is the purest Zinc according EN 1179 standard. Our brands, the Finnish Kokkola Zinc SHG and Norzink produced in Norway are both registered brands in the LME.

SHG-Zinc suits all applications and can be mixed with other alloying elements. Boliden SHG is available from 25 kg slabs up to 4t jumbos.

#### **OUR PROMISE**

Boliden's experienced technical support drives the development and production process of the metal. Our Technical Consultant is ready to answer your questions with regards to your individual application of the product. Through reliable deliveries, high quality products and professional customer service, including price information we want to be your supplier of choice.

By becoming Boliden's customer, we want to help you add value to your customers and work with you for a more sustainable future.

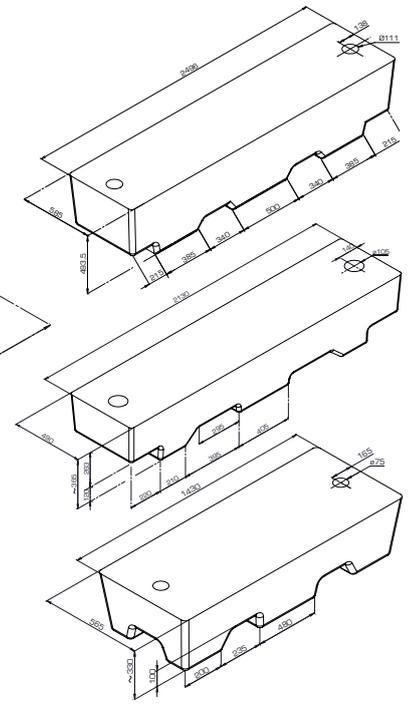
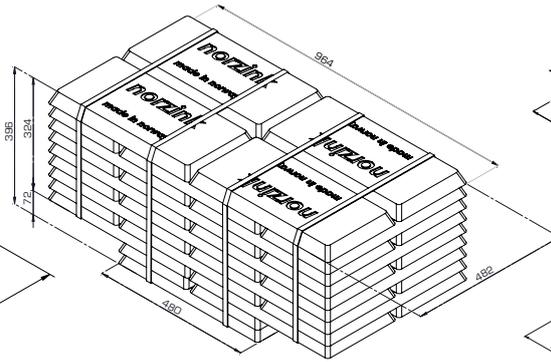
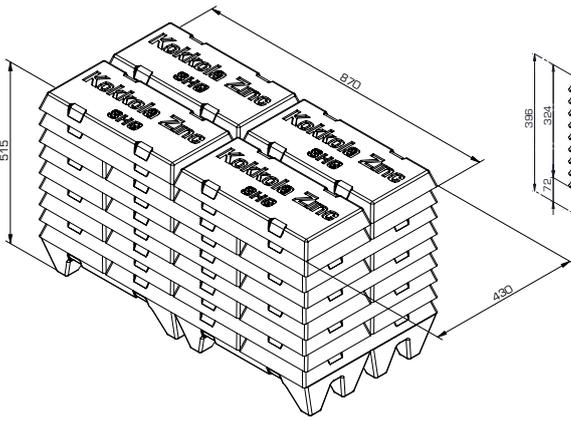


**Standards: ISO 752-2004 Grade ZN 99.995,  
EN 1179-2003 Grade ZI**

### Did you know that ...

Boliden is one of the world's ten biggest players in the zinc mining sector.

# Technical Specification



<b>Slab</b>	± 25 kg	
<b>Slab bundle Norway</b>	1,000 ± 100 kg	964 x 482 x 396
<b>Slab bundle Finland</b>	1,000 ± 100 kg	870 x 430 x 515 mm
<b>Jumbo 1,400 kg</b>	1,400 ± 100 kg	1,440 x 576 x 335 mm
<b>Jumbo 2,000 kg</b>	1,950 ± 100 kg	2,100 x 490 x 378 mm
<b>Jumbo 4,000 kg</b>	4,000 ± 200 kg	2,500 x 600 x 520 mm

Chemical composition	Guaranteed analysis	Typical analysis
Pb	< 0.003 %	0.0019 %
Cd	< 0.003 %	0.0003 %
Fe	< 0.002 %	0.0004 %
Sn	< 0.001 %	0.0002 %
Cu	< 0.001 %	0.0003 %
Al	< 0.001 %	0.0002 %
Total of elements	< 0.005 %	0.0033 %

Physical property	Unit	Value
Density solid	g/m <sup>3</sup>	7.14
Density liquid (melting temperature)	g/m <sup>3</sup>	6.62
Melting point	°C	419.5
Boiling point	°C	907
Surface tension (420 °C)	N/m	0.78
Viscosity (420 °C)	Ns/m <sup>2</sup>	0.00385
Melting enthalpy	kJ/kg	100
Thermal capacity (solid)	J/kgK	388
Thermal capacity (liquid)	J/kgK	580

## The Boliden Group

Metals are an ever-present and vital component of society. Boliden extracts minerals and produces high quality metals in a cost-efficient way. The work – from exploration to customer delivery – is characterised by care for people, the environment and society.

The Boliden Group operates six mines and five smelters in Sweden, Finland, Norway and Ireland and has a total of approximately 5,700 employees. Our core expertise is in exploration, mining, smelting and recycling.

Boliden's main metals are zinc and copper, but the production of lead, nickel, gold, silver and other products is also of considerable importance for our profitability. The annual turnover is approximately SEK 50 billion.



## Our value chain

**Exploration** Successful exploration is vital to long-term metal production. The exploration is conducted in the vicinity of existing mines and in new areas in order to find new deposits.

**Mines** Zinc-, copper-, nickel-, lead-, gold- and silver-bearing ores are mined in Boliden's mining areas. The ore is processed to metal concentrate, the majority of which is delivered to smelters within the Group.

**Smelters** Boliden's smelters refine metal concentrates and other raw materials, such as electronic scrap, to produce both pure metals and customised alloys.

**Customers** Our products are mainly sold to industrial customers in Europe. Most of the zinc is sold to steel companies, while the copper is supplied to manufacturers of for example wire rod.