

**ECN limited**

Member of Russian Association of Metal and Steel Traders,

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ECN Limited Company Profile

Introduction

Stepan Ostafiychuk is the founder and owner of ECN Limited (ECN), a company he started in 1993 after leaving the USSR military forces. The company was initially established to trade on the local steel markets however in 1995 it purchased its first steel balls forging line from the Governmental Reserve Fund. ECN's initial focus was on the local Russian market and this has matured into a well established business. In 1997, ECN entered into the export market by supplying forged grinding media to the European traders. We have consequently built direct relationships with our export clients and as an example currently (as for June 2012) export 1025 tonne a month to Gold Mines in Mali, Morocco, Mauritania, Guinea and Burkina Faso.

Today, ECN is a universal supplier and producer of forged steel grinding balls used in mining enterprises. The company employs 92 people, has five production facilities in three regions of Russia with an overall monthly manufacturing capacity of around 3000 metric tonne.

Our expertise and focus is with forged steel balls however we often have requests for cast balls! This has lead to us developing a working relationship with a Chinese manufacturer of high quality cast balls. We have conducted numerous tests on the Chinese product and concluded that their product is of a world class nature.

Specifications

Properties

ECN has incorporated our Production Sizes, Hardness (HRC), Chemical Composition % Max and Diameter Tolerances into Table 1.

Nominal Dia. mm	Hardness HRC	Chemical composition % max				Diameter tolerances			
		C	Mn	Cr	Mo	Min mm	Max mm		
25	60 to 65	1.10	1.10	0.60	0.20	24.6	26.0		
30						30.0	32.0		
40						38.0	42.0		
50						47.5	52.5		
60	58 to 62	0.85	1.00	0.80	0.30	57.0	63.0		
70						66.5	73.5		
80	76.0			84.0					
90	56 to 60			0.85		1.00	0.50	86.5	94.5
100								97.0	105.0
120								120.0	126.0

Table 1: ECN Limited Specification on Hardness, Chemical Composition and Diameter Tolerances

Quality Assurance/Quality Control

Details of the ECN Limited Processes

ECN Limited has five manufacturing facilities in three regions of Russia namely; Vologda, Saint-Petersburg and Voskresensk.

Vologda

Vologda is a Russian City and administrative center of Vologda Oblast. It is located in the North-West region of Russia, and has a population of 293 046 people. ECN Limited operates two manufacturing plants in the city. The first plant manufactures 28 - 60 mm grinding balls using a forging roll methodology. Heat treatment is applied during the manufacturing process and the grinding media is quenched in water. The second plant manufactures both 70 and 80 mm balls using a forging press methodology. Heat treatment is applied during the manufacturing process and the grinding media is quenched in water and oil.

Saint-Petersburg

ECN has its headquarters in Saint-Petersburg. Saint-Petersburg is a city located in the north west of Russia. It is situated on the delta of the famous river Neva. The river Neva joins the eastern part of the Gulf of Finland on the Baltic Sea.

Saint-Petersburg was founded in 1703 as a "window to Europe" and served as the capital of the Russian Empire until the capital was moved to Moscow after the Russian Revolution. Currently with about 4.7 million inhabitants, Saint Petersburg is Russia's second-largest city and Europe's fourth largest. It is a major European cultural center and serves as Russia's most important port on the Baltic.

Besides the head office, ECN Limited operates a plant in Saint-Petersburg that the forging roll methodology to manufacture 80 and 100 mm balls. Heat treatment and water quenching (shower type) is used in the manufacturing process.

Voskresensk

Voskresensk is a Russian town in the Moscow Oblast with a population of 77,871. ECN Limited operates two lines in Voskresensk. The first line manufactures 40 - 100 mm grinding balls using a forging roll (in-line forging) methodology. Heat treatment and water quenching is consolidated into one process. The second line forges 120 - 125 mm grinding balls using a press. Heat treatment and water-oil quenching is used in the manufacturing process.

Existing ECN Quality Control System

The ECN Quality Control System consists of three stages:

- From each batch of steel bar material delivered to our production facilities, raw material samples are cut from the middle of the steel bars. These samples are sent to an independent test laboratory for chemical composition and microstructure testing.
- Ten random balls out of each lot are selected and subjected to quality controls. Of the ten, nine are used for hardness testing and one for volumetric testing.
- Random visual surface defects and surface hardness tests are taken at our export warehousing facility prior to packing and shipment.

Our quality control procedure is designed to achieve 100% compliance with our specification as laid out in Table 1.

Compliance with Existing Quality Standards

Russian Standard GOST 7524-89

Organisational Overview and General Information

(a) Primary contact persons information:

- **Pavel Ostafiychuk**
- ECN Limited Export Supplies Manager
- pavel.offline@gmail.com
- 198097, Russia, Saint-Petersburg, Stachek Avenue 47
- Mobile phone +7-965-7635297
- Office phone/fax +7-812-3316566
- Primary language: Russian Languages and English.

(b) ECN Limited company information:

- Private company
- 198097, Russia, Saint-Petersburg, Stachek avenue 47.
- Year established - 1993
- Company headquarters location – Saint-Petersburg, Russia
- Other company locations and their functions
 - Manufacturing facility 1: Saint-Petersburg, Russia
 - Manufacturing facility 2: Vologda, Russia
 - Manufacturing facility 3: Voskresensk, Russia
 - Export Warehouse facility: Peterhoff, Saint-Petersburg region, Russia
- Number of permanent and casual employees - 92
- Company website address – www.esn.spb.ru
- Top export customers:
 - Mauritanian Mining Company
 - Brukina Mining Company
 - Golden Star Resources
 - Saudi Arabian Mining Company
 - Kinross Gold Corporation
- Countries supplied: Russia, Ukraine, Saudi Arabia, Kuwait, Ghana, Mali, Morocco, Mauritania, Burkina Faso, Turkey, Tanzania, Guinea, Oman, Peru.
- Estimated annual sales – USD 15 million
- Current production capacity – 3000 MT with subject to increase up to 5000 MT
- Major contracts won in the last ten months:
 - Mauritanian Mining Company, Mauritania
 - SMD Lefa Gold mine, Guinea
 - Mawarid Mining, Oman