Grodno Azot
JOINT STOCK COMPANY
PLANT KHIMVOLOKNO
BRANCH

Branch“ PLANT KHIMVOLOKNO” JSC “GRODNO AZOT”

The history of **Branch «Plant Khimvolokno» JSC «Grodno Azot»** dates back to December 11, 1971 and that was its construction commencement date.

First industrial yarn for cord fabric and mechanical rubber goods was produced on January 10, 1978. From that moment Grodno company of synthetic yarns has started its production activities.

In 1983 the enterprise was rearranged into Grodno Production Enterprise "Khimvolokno" and reorganization of the state enterprise into Joint Stock Company "Grodno Khimvolokno" was performed in 2002.

Since October 1, 2011 as per decision of extraordinary general meeting of shareholders of both JSC "Grodno Azot" and JSC "Grodno Khimvolokno" the latter was affiliated to JSC "Grodno Azot".

At present Branch «Plant Khimvolokno» is a large manufacturer of polyamide and polyester yarns and fibres, as well as virgin polyamide-6 (PA-6) and PA-6 based composite materials, including:

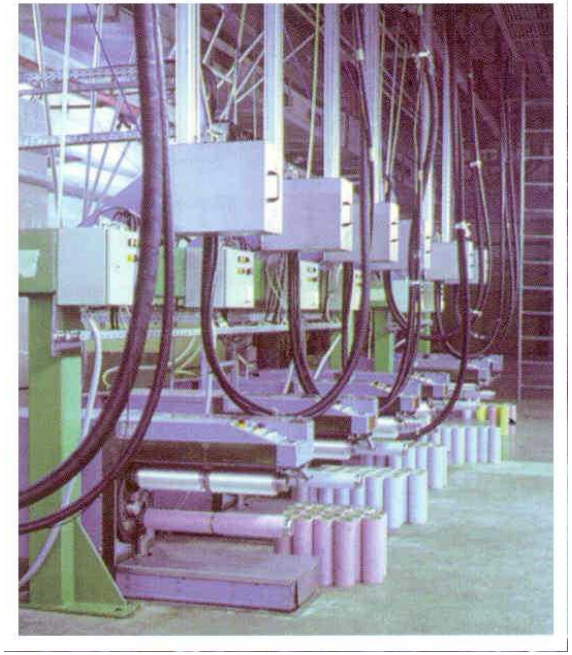
- PA-6 /granulated/;
- polyamide light&heat-stabilized yarn including spun-dyed one;
- polyamide twisted yarn;
- polyester HMLS yarn;
- polyester twisted yarn;
- polyamide texturized BCF yarn, as well as twisted BCF Heat-set;
- cord fabric for tyre industry both greige and dipped made from polyamide 6, polyamide 6.6 and polyester yarns;
- industrial fabric;
- polymer composite materials;
- consumer goods.

Each of main kinds of goods is manufactured in wide assortment with different physical & mechanical properties and quality indices depending on application range.

NYLON INDUSTRIAL YARNS

Our company produces a wide range of **nylon yarns** intended for production of cord fabrics; industrial fabrics for conveyor belts; mechanical rubber goods; packing cloth; fishing tackle including nets, ropes, cables etc.; consumer goods including household, leisure and sport articles.

Industrial yarns are produced undyed and spun-dyed; heat-stabilized (for heat resistivity at exposure to high temperatures); light & heat-stabilized (to keep physic-mechanical features at exposure to UV radiation); light-stabilized with low yellowness index to enhance aesthetic features of the goods produced. Nylon yarn is produced at high technological equipment of "Zimmer" (Type 101, 102) and "Barmag" (Type 201, 202), "TMT" (Type 401, 402), "SwissTex" (Type 502, 507).



Linear density range is within dtex 935 – 2100. Nylon yarn is exported to CIS, Central, East and West European countries, USA. Both manufacturers of fishing tackle and manufacturers of industrial and tyre cord fabrics have approved its quality.

Nylon light & heat stabilized yarn (light-resistance 80 – 85% after 30 days exposure), tenacity min. 82 mN/dtex is used for production of fishing tackle.

Nylon light & heat stabilized yarn (min. tenacity 85 mN/dtex) is used for production of cord and industrial fabrics.

Nylon spun-dyed industrial yarns are manufactured in a wide range of colours. Their tenacity is min. 80 mN/dtex and colour stability of 5 -8 points. The colours are developed in collaboration with the manufacturers of super masterbatches (BASF, Clariant, etc.) and as per a sample provided by a customer. The yarns are used for production of fishing tackle, cables, sport and leisure goods.

Nylon twisted yarn is produced at cabling and twisting machines of Allma Saurer, Germany and is characterised by high level of evenness of physical and mechanical properties. The yarn is used for production of industrial fabrics, driving belts and other industrial goods.

The structure of nylon twisted yarns is dtex (935; 1440; 1870) x 1; dex (935; 1440; 1870) x 2; dtex (935; 1440; 1870) x 3, tenacity 76-80 mN/dtex. Twisting range is 36 – 500 tpm.

NYLON-6 LIGHT&HEAT STABILIZED YARN

It is intended for production of cord fabric, conveyor belts, rubber-industrial articles

Nominal linear density, dtex	935 / F140	1440 / F 280	1870 / F 280
Type	**202, 402**	**102, 202, 402**	**102, 202, 402**
Deviation of actual linear density from nominal one, %	±3,0		
Tenacity, mN/dtex, min	85		
Elongation at break, %, max	25		
Number of turns per 1 m	0		
Heat resistance, %, min	85		
Hot air shrinkage, %, max	8		

Type	**102**	**202**	**402**
Yarn weight and package type	(5,0-10,0) ±0,5 кg cylindrical		
Tube length, mm	290,5	300,0	
Tube inner diameter, mm	75,0	94,0	
Beam length, mm	250,0	250,0	252,0
Maximum beam diameter , mm	280,0	290,0	320,0

PACKING

Each bobbin is wrapped up with PE foil. Bobbins are placed onto pallets with forming a block-pack. Block-packs are stretch-foiled. Standard block-packs are formed on pallets:

- 1200x800 mm (6-layer block-pack)
- 1200x1000 mm (5-layer block-pack)

TRANSPORTATION

Block-packs are carried in 40’ containers and trucks

POLYAMIDE YARN LIGHT&HEAT STABILIZED TYPE 502

Index	BISFA standard symbols	Meas. unit	Index value		
1. Nominal linear density	LD	dtex	935	1440	1870
2. Number of filaments in complex yarn			140	210	280
3. Deviation of actual linear density from the nominal one		%	± 3,0		
4. Tenacity, min		mN/dtex	85		
5. Coefficient of variation of tensile strength between packages, max	CV_B	%	3,0		
6. Yarn elongation at break, max	EAB	%	25		
7. Number of twists per 1 m of yarn		tpm	0		
8. Hot air shrinkage (in dry state), max	HAS	%	8		
9. Heat resistance, min		%	90		
10. Number of entangling points per 1 m of yarn, min		pcs.	4		
11. Spin-finish content (petroleum-ether), max		%	1,2		
12. Weight of a bobbin		g	(5000-11500) ± 500		
13. Type of a bobbin			cylindrical bobbin		
14. Yarn shade of spin-finish oil, stabilizers and modifiers between the bobbins			not admitted		
15. Yarn shade of spin-finish oil, stabilizers and modifiers inside the bobbins			not admitted		
16. Length of transfer tail, min		m	1,0		

Tube length, mm 290,5 Inner diameter, mm 75

Each bobbin with yarn is wrapped up with paper or polymeric foil. Bobbins are put onto a pallet with forming a block-package using interlayers while palletizing. A cover is put on the top of block-package. A block-package is strapped and stretch-foiled.

Quality control is performed according to the regulations of JSC «Grodno Azot» in force.

Min. 500 meters of upper yarn layer should be unwound from each bobbin before starting tests.

MARKING

Export
Polyamide yarn light&heat
stabilized Type 502 _____dtex
Lot no.
Place no.
Gross weight, kg
Net weight, kg
Conditional weight, kg

PACKING

Each bobbin is wrapped up with PE foil. Bobbins are placed onto pallets with forming a block-pack. Block-packs are stretch-foiled. Standard block-packs are formed on pallets:

- 1200x800 mm (6-layer block-pack)
- 1200x1000 mm (5-layer block-pack)

TRANSPORTATION

Block-packs are carried in 40’ containers and trucks

POLYAMIDE YARN LIGHT STABILIZED TYPE 507

Index	BISFA standard symbols	Meas. unit	Index value		
1. Nominal linear density	LD	dtex	935	1440	1870
2. Number of filaments in complex yarn			140	210	280
3. Deviation of actual linear density from the nominal one		%	± 3,0		
4. Tenacity, min		mN/dtex	80		
5. Coefficient of variation of tensile strength between packages, max	CV_B	%	3,0		
6. Yarn elongation at break, max	EAB	%	25		
7. Number of twists per 1 m of yarn		tpm	0		
8. Hot air shrinkage (in dry state), max	HAS	%	8		
9. Number of entangling points per 1 m of yarn, min		pcs.	4		
10. Spin-finish content (petroleum-ether), max		%	1,2		
11. Weight of a bobbin		g	(5000-11500) ± 500		
12. Type of a bobbin			cylindrical bobbin		
13. Yarn shade of spin-finish oil, stabilizers and modifiers between the bobbins			not admitted		
14. Yarn shade of spin-finish oil, stabilizers and modifiers inside the bobbins			not admitted		
15. Length of transfer tail, min		m	1,0		

Tube length, mm 290,5 Inner diameter, mm 75

Each bobbin with yarn is wrapped up with paper or polymeric foil. Bobbins are put onto a pallet with forming a block-package using interlayers while palletizing. A cover is put on the top of block-package. A block-package is strapped and stretch-foiled.

Quality control is performed according to the regulations of JSC «Grodno Azot» in force.

Min. 500 meters of upper yarn layer should be unwound from each bobbin before starting tests.

MARKING

Export
Polyamide yarn light&heat
stabilized Type 502 _____dtex
Lot no.
Place no.
Gross weight, kg
Net weight, kg
Conditional weight, kg

PACKING

Each bobbin is wrapped up with PE foil. Bobbins are placed onto pallets with forming a block-pack. Block-packs are stretch-foiled. Standard block-packs are formed on pallets:

- 1200x800 mm (6-layer block-pack)
- 1200x1000 mm (5-layer block-pack)

TRANSPORTATION

Block-packs are carried in 40’ containers and trucks

MANAGEMENT SYSTEMS

In November 2000 our enterprise was the first in chemical fiber industry in the CIS to obtain Certificates of quality system compliance with the requirements of international standard **ISO 9001-94**.

During 2001 – 2003 efforts were made to improve quality system with regard to requirements of international standard **ISO 9001:2000** new edition.

Quality Management System (QMS) was implemented in May 2003.

In 2005 there was implemented an Environmental Management System (EMS) conforming to the requirements of international standard **ISO 14001:2004.**

In 2009 there was implemented the Occupational Health and Safety Management System (OHSMS) that conforms to the requirements of standard **OHSAS 18001:2007**; the current QMS was amended due to revision and bringing into effect of **ISO 9001: 2008**.

In July and September 2015 United Registrar of Systems Ltd performed first and second stages of certification audit of Quality Management System during designing and production of dipped cord fabric for reinforcement of pneumatic tires for conformity with requirements of **ISO/TS 16949:2009** Technical Specification.

Following the results of the audit, Quality Management System was acknowledged as appropriate to specified requirements, there was received Certificate of conformity **No. 65880/D/0001/SM. Valid until September 14, 2018.**

In September 2015 United Registrar of Systems Ltd performed certification audits of QMS and OHSMS, supervisory audit of EMS.

Based on results of the audits:

- Quality Management System was found to be in conformity with the international standard **ISO 9001:2008**;
- Occupational Health and Safety Management System was found to be in conformity with **OHSAS 18001:2007**;
- Environmental Management System was found to be in conformity with international standard **ISO 14001:2004**.

In October 2016 United Registrar of Systems Ltd performed supervisory audits of QMS, OHSMS and EMS.

Following the results of supervisory audits, Management Systems were acknowledged as appropriate to requirements of **ISO/TS 16949:2009** Technical Specification, international standards **ISO 9001:2008, ISO 14001:2004** and standard **OHSAS 18001:2007**.

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WWW.GRODNO-KHIM.BY

E-MAIL: MARKET@GRODNO-KHIM.BY

PHONE +375 152 68 74 47 (MARKETING)

THANK YOU FOR YOUR ATTENTION!