isovac®

ELECTRICAL INDUSTRY

Expect more

greentec steel

Premium quality
with reduced carbon footprint

isovac®
greentec steel

voestalpine Steel Division
www.voestalpine.com/isovac

voestalpine
ONE STEP AHEAD.

isovac®

MORE THAN JUST ELECTRICAL STEEL

Expect more with isovac® by voestalpine

The electrical industry is one of the most versatile and innovative sectors in the world. Whether for electric motors, generators or transformers—the requirements could not be more unique. Companies who don't take the path of continuous innovation risk being passed up in the long run.

With our comprehensive material know-how and expertise in the market, we engage in development partnerships with leading companies in the electrical industry worldwide. These partnerships make it possible for our customers to contribute substantially to the green electrification of our future.

To find out more about isovac®,
visit us on our website at
www.voestalpine.com/isovac/en

Stella Sustainable will keep you informed of greentec steel products, environmental protection and sustainability in the voestalpine Steel Division. Please visit
www.voestalpine.com/stella

SEE FOR YOURSELF WHAT isovac® IS CAPABLE OF

Expect more with isovac® by voestalpine

We set new standards with isovac®, an innovative electrical steel with excellent properties and pole sheets that lead to high performance as well as unsurpassed sustainability and meet much more than merely standard requirements. Our electrical steels find their applications in hydraulic power stations, drive motors in the automotive industry, electric motors and compressors for household appliances, shielding systems used in medical technologies, motors for fully automated production lines, magnets for synchrotrons (particle accelerators), transformers for welding machines, power conversion reactance coils and much more.

On the following pages you will find out more about isovac®, the electrical steel of voestalpine. Discover what added value it can bring to your business in the following fields of application:

- Motors
- Generators
- Static machines

greentec steel

Premium quality with reduced carbon footprint

isovac®
greentec steel

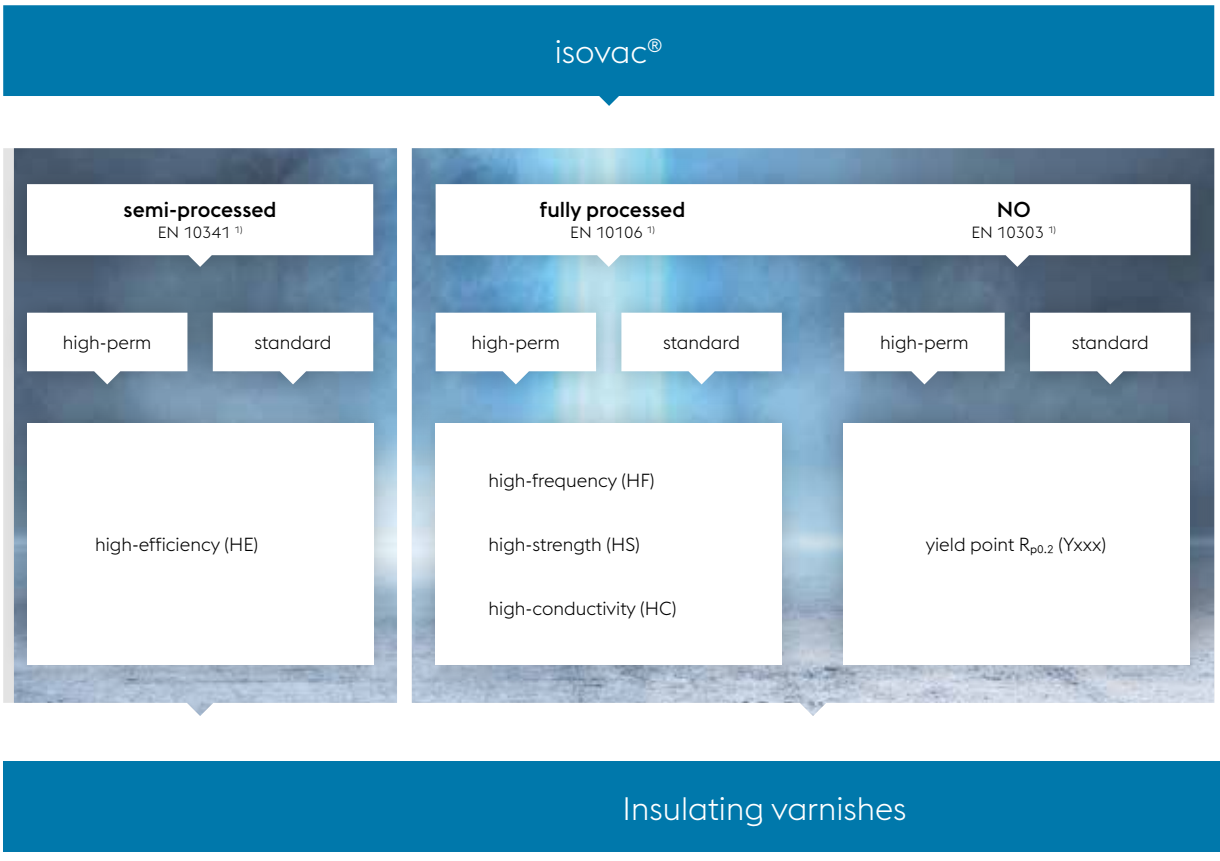
Semi-processed electrical steel – greentec steel Edition
Max. carbon footprint 2.30 kg CO_2e per kg of steel [1)]
Fully processed electrical steel – greentec steel Edition
Max. carbon footprint 2.45 kg CO_2e per kg of steel [1)]

[1)] per worldsteel CML 2001-2016 (system expansion) cradle to gate

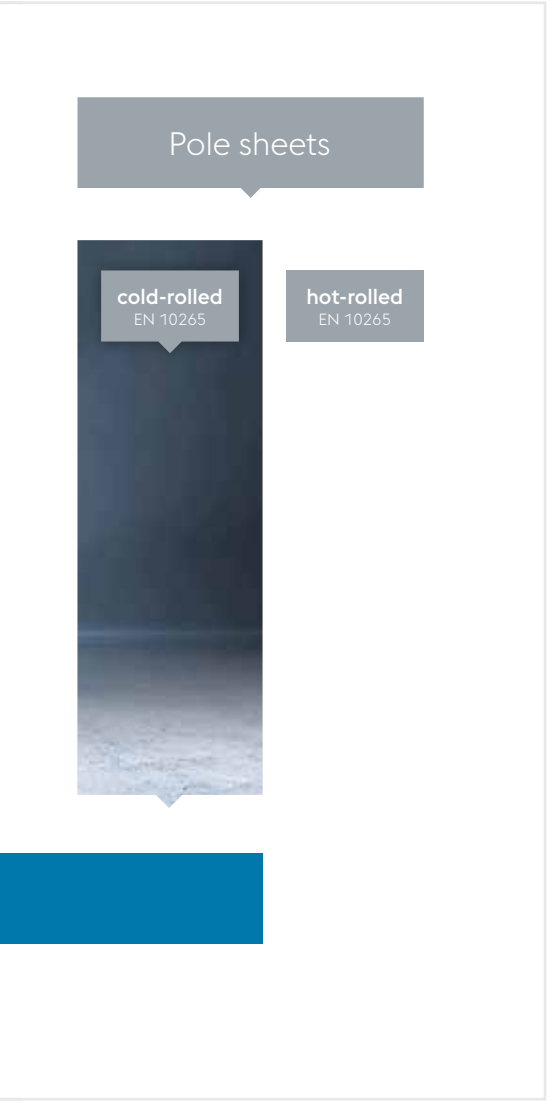
All products, dimensions and steel grades listed in each voestalpine supply range are available as greentec steel Edition.

EXPECT MORE
DIVERSITY

isovac®, our non-grain-oriented electrical steel for the highest energy efficiency, and our pole sheets provide you with a comprehensive package of benefits. Because of its excellent property profile, isovac is a leading product in customer applications worldwide.



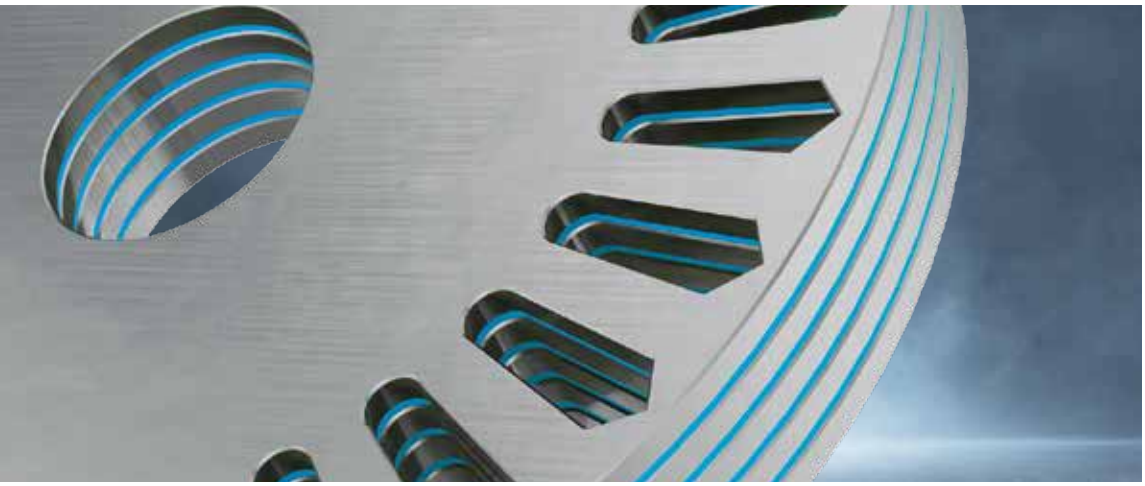
1) Steel grade designation deviates from the standard



AS A RESULT OF THE CONTINUOUS ROLLING AND ANNEALING PROCESSES, ALL isovac® GRADES GUARANTEE HOMOGENEOUSNESS OF THE MATERIAL WITH RESPECT TO ITS MECHANICAL, GEOMETRIC AND MAGNETIC PROPERTIES. THIS LEADS TO STABLE MATERIAL PROCESSING AT THE CUSTOMER AND ALSO GUARANTEES CONSISTENT QUALITY IN EACH COIL AND STEEL GRADE.

isovac® ELECTRICAL STEEL

isovac® is the non-grain oriented electrical steel made by voestalpine and stands for best magnetic properties in terms of performance and material homogeneity. The material is characterized by low directionality (anisotropy) with respect to the magnetic and mechanical properties. The main applications for non-grain oriented electrical steel are motors of all sizes, generators, ballasts and much more.



HS

isovac® HP high-perm – the specialist in highest permeability

semi-processed fully processed NO

The optimum adjustment of textures increases magnetizability and reduces core loses. This increase in efficiency makes it possible to maintain the same level of performance while reducing component size and saving material, weight and costs. This means that a higher level of performance can be achieved with the same component size.

- Increased performance achieved by increasing torque based on higher magnetizability
- Cost optimization through less material usage, less weight and less space requirement resulting from downsizing while maintaining the same level of performance.

HE

isovac® HE high-efficiency – the specialist in shorter final annealing times

semi-processed

isovac® HE (high-efficiency) is highly decarbonized in as-delivered condition, which means that the final annealing time at the customer can be significantly shortened. Subsequent annealing at the customer completely eliminates any magnetic damage introduced to the material during the punching process.

- Final annealing times significantly shortened by low carbon content
- Overall cost reductions based on low energy input, low emissions and higher productivity

HF

isovac® HF high-frequency – the specialist in high frequencies

fully processed

The use of isovac isovac® HF (high- frequency) grades guarantees optimum utilization of machinery at higher frequencies. High-precision adjustment of the microstructure and adaptation of the alloy content make it possible to keep losses low in the high-frequency range.

- Application in fast-turning machines with low core loss at high rotational speeds.
- Greater freedom of design and motor size optimization based on higher strengths

HS

isovac® HS high-strength – the specialist for high mechanical requirements

fully processed

Both magnetic and mechanical properties play an important role in many modern high-speed motors or large electric machinery. The electrical steel used—especially in the rotor—is exposed to high mechanical stress, which requires the use of high-strength material. isovac® HS (high-strength) grades combine good magnetic and high strength properties, also available with Backlack for even greater strength.

- Reduced air gap between rotor and stator as a result of higher strength or reduced rotor ridge widths in permanently excited machinery
- Larger freedom of design for electric machinery
- Possibility of partial subsequent annealing treatment at the customer in order to improve magnetic properties, e.g. in the stator

isovac® HC high-conductivity – the specialist in high thermal conductivity

fully processed

The high thermal conductivity of isovac® HC (high-conductivity) grades ensures rapid heat dissipation in combination with higher polarization while maintaining low specific total core losses. Innovative design strategies made possible for electrical machinery

- Potential cost savings in electric machinery based on lower component sizes and lower material usage based on higher polarization.
- Cooling power requirement reduced by up to 20% as a result of higher thermal conductivity
- Alternative motor designs with reduced scrap volumes based on lower strengths

isovac® NO – the specialist in electromobility

NO

The alloy design of isovac NO grades, its high-precision microstructure and its sheet thickness of ≤ 0.35 mm make it especially suitable for applications in the high-frequency range and for motors with high rotational speeds. isovac® NO grades strike an optimized balance between magnetic and mechanical properties, making new structural designs possible in the automotive industry.

- Reduced energy consumption when used in motors with highest rotational speeds
- High strengths while maintaining low losses make the material highly suitable for rotors and stators.
- Coatings with innovative electrical steel insulation systems upon request: predestined for use in combination with Backlack

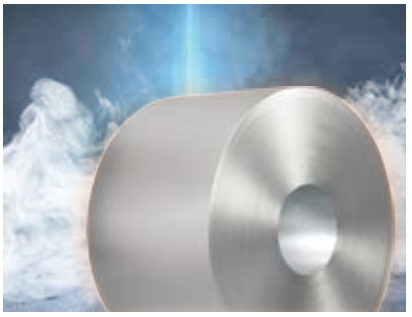
Data sheets and much more information are available at **www.voestalpine.com/isovac/en/Product-overview/Data-sheets**

POLE SHEETS

The right product for each application. Whether for high or low torques, frequencies or rotational speeds, our pole sheets are just the right product for a wide variety of different applications. Best electromagnetic and excellent mechanical properties in our pole sheets guarantee the highest level of security, even at high rotational speeds. The size and application will determine whether cold-rolled or hot-rolled pole sheets are to be used.

HOT-ROLLED POLE SHEETS

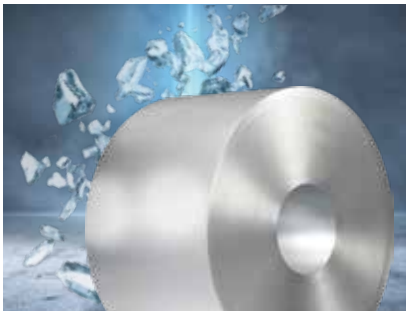
Thermomechanically rolled steels with guaranteed magnetic properties



- Best laser-cutting properties
- Homogeneous mechanical properties
- Minimum inherent stress and residual stress
- Narrowest flatness, shape and dimensional tolerances
- Minimum deviations in thickness (across cross-section) of cut sheets
- Our special production route results in a distinct, homogeneous and strongly adhesive oxide layer that guarantees best insulation

COLD-ROLLED POLE SHEETS

Cold-rolled steels with guaranteed magnetic properties



- Best cutting, punching and laser-cutting properties
- Low anisotropy
- Highest strength
- Narrowest flatness and dimensional tolerances

EXPECT MORE POWER

isovac® for engines

With respect to compact engine design and high efficiency, we have just the right isovac® product for each customer. High individual demands on the efficiency and performance of motor steels are met by high permeability, low core loss and, where required, high strengths. Using the most modern technologies in our integrated steelmaking facilities, we manufacture high-quality electrical steel grades to meet your individual product requirements (from Vibracall to industrial motors).

Motors		isovac®		Core losses		
		fully processed [1]	semi-processed	low	moderate	high
Maximum width [2]	[mm]	1,600	1,600			
Thickness [2]	[mm]	0.25–1.0	0.5–1.5			
Cut shapes						
Single-phase standard motor		✓	✓			✓
Standard asynchronous motor		✓	✓		✓	✓
High-end asynchronous motor		✓		✓		
Standard synchronous motor		✓	✓	✓	✓	
High-end synchronous PM motor		✓		✓		
Universal motor		✓	✓		✓	✓
DC motor		✓	✓		✓	✓
Brushless DC motor		✓	✓	✓	✓	
AC servo motor		✓	✓	✓		
DC servo motor		✓	✓	✓	✓	

 Coil  Slit strip  Cut shapes

[1] Including NO grades
[2] Further thicknesses and widths upon request

Insulating varnishes					Grades					
uncoated	C-3	C-5	C-6	Backlack	standard	HP	HC	HF	HS	HE
✓	✓	✓			✓		✓			
✓	✓	✓			✓		✓			✓
		✓		✓		✓	✓			
	✓	✓		✓		✓		✓		✓
		✓		✓		✓		✓	✓	
✓	✓	✓			✓					✓
✓	✓	✓			✓					
		✓		✓		✓	✓			
		✓		✓		✓	✓			
		✓		✓		✓	✓			

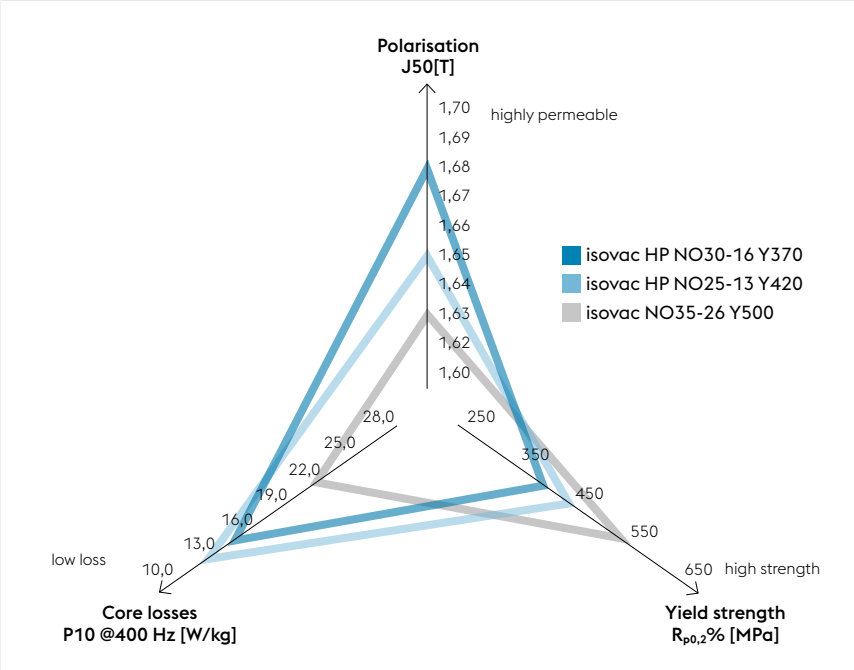
EXPECT MORE E-MOBILITY

For a wide range of requirements, especially for e-mobility. Electromobility is an industrial sector that is growing dynamically worldwide and is marked by high individual demands with respect to efficiency and performance. With isovac®, we meet the demands of high permeability, low loss, high strength and quick development cycles for electrical and hybrid technologies.

Strong and powerful electric motors can be combined with a wide range of electrical steels. Depending on the motor design, different requirements pertain to the electrical steel used. From a wide range of isovac® NO grades, you can choose the optimum material for every motor design.

isovac® grades	Low losses	High polarization	High strength	Thickness
isovac HP NO25-13 Y420	⊕⊕⊕⊕⊕	⊕⊕	⊕⊕⊕	0.25
isovac HP NO27-14 Y420	⊕⊕⊕⊕	⊕⊕⊕	⊕⊕⊕	0.27
isovac HP NO30-15 Y420	⊕⊕⊕	⊕⊕⊕	⊕⊕⊕	0.30
isovac HP NO30-16 Y370	⊕⊕⊕	⊕⊕⊕⊕	⊕⊕	0.30
isovac HP NO35-18 Y420	⊕⊕	⊕⊕⊕	⊕⊕⊕	0.35
isovac HP NO35-19 Y370	⊕⊕	⊕⊕⊕⊕	⊕⊕	0.35
isovac NO35-22 Y460	⊕	⊕	⊕⊕⊕⊕	0.35
isovac NO35-26 Y500	⊕	⊕	⊕⊕⊕⊕⊕	0.35

Special joining processes such as full-surface bonding enable rotor designs that have a positive effect on efficiency.



When selecting the most suitable electrical steel, it is important to remember that very thin electrical steel leads to an increase in efficiency in high-speed motors, especially in the stator, yet very high strengths are often required in the rotor. Furthermore, grades with high polarization allow the same torque, even at a lower magnetic field.

EXPECT MORE
EFFICIENCY

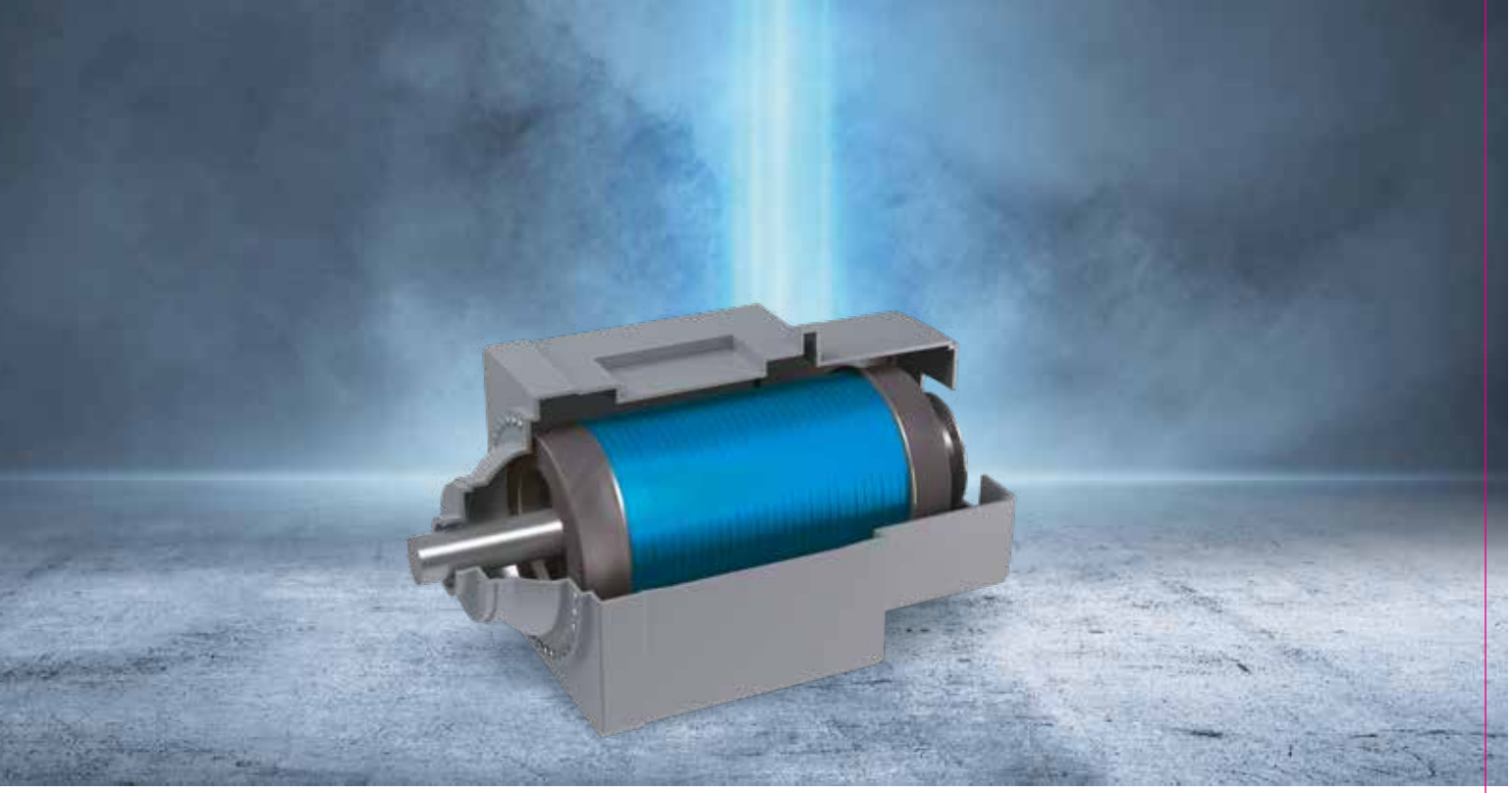
isovac® for generators

Future energy generation facilities will require the highest standards of quality. Particularly in the field of renewable energies, high-quality electrical steel and pole sheets contribute substantially to increased efficiency. Non-grain-oriented isovac® electrical steel and our hot- and cold-rolled pole sheets stand for best electromagnetic properties and highest energy efficiency.

Generators		isovac®		Pole sheets	
		fully processed [1]	semi-processed	cold-rolled	hot-rolled
Maximum width [2]	[mm]	1,600	1,600	1,600	1,620
Thickness [2]	[mm]	0.25–1.0	0.5–1.5	0.7–1.0 [4]	2.0–12.0
Cut shapes		✓	✓	✓	✓
Motor types					
Multi-pole synchronous/asynchronous generators		✓	✓	✓	✓
Asynchronous generators		✓	✓	✓	✓
Synchronous generators		✓	✓	✓	✓
Fields of application					
Alternators		✓	✓		
Hydro-generators		✓		✓	✓
Wind generators		✓			
Turbo generators		✓			
Universal generators		✓	✓	✓	

Coil · Slit strip · Cut shapes

[1] Including NO grades
[2] Further thicknesses and widths upon request
[3] Pole sheets only
[4] Thickness < 1.0 mm upon request

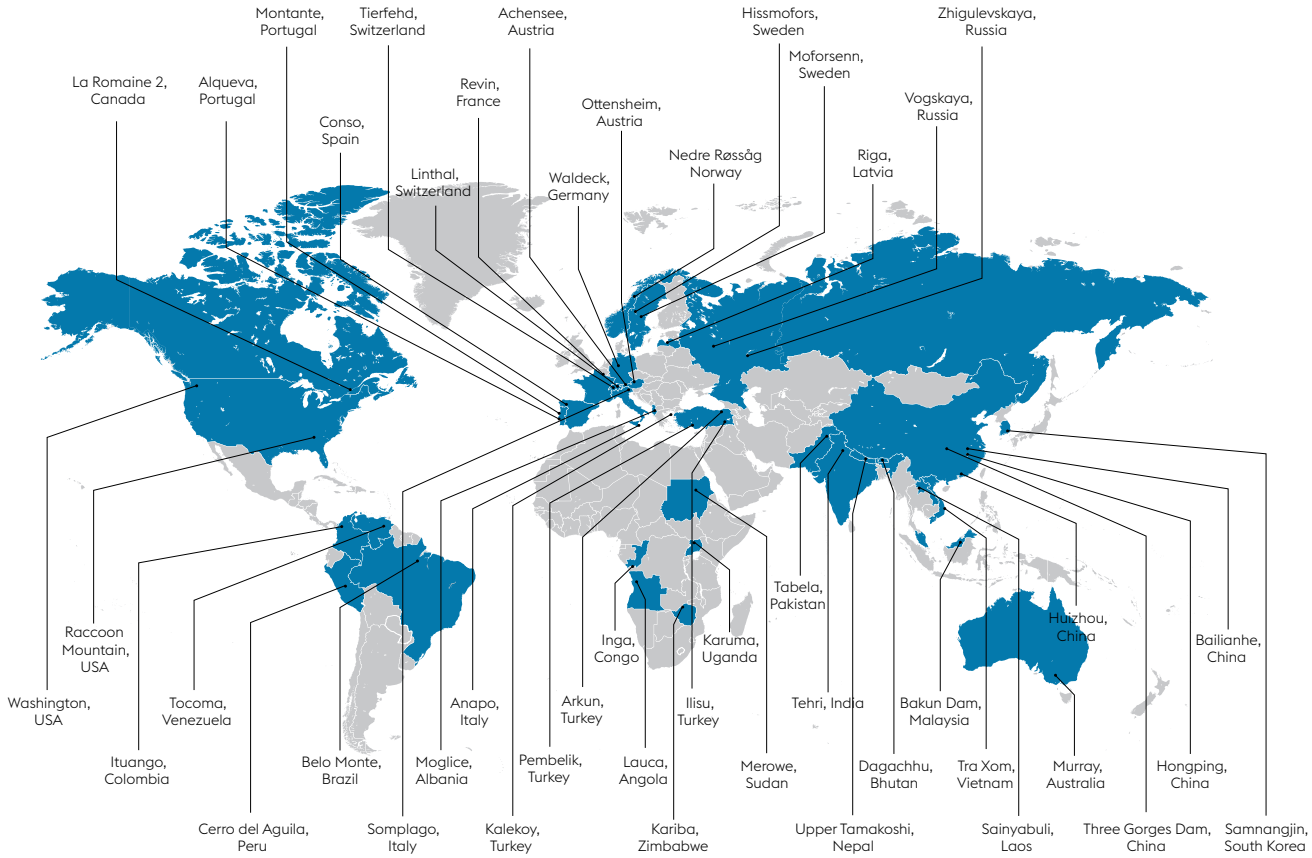


Core losses			Insulating varnishes					Grades					
low	moderate	high	uncoated	C-3	C-5	C-6	Backlack	standard	HP	HC	HF	HS	HE
		✓	✓[3]		✓		✓		✓	✓			✓
✓	✓		✓[3]		✓	✓	✓		✓		✓		✓
✓			✓[3]		✓	✓	✓		✓		✓	✓	✓
	✓		✓		✓			✓		✓			✓
✓			✓[3]		✓	✓		✓	✓	✓	✓	✓	
✓	✓	✓			✓		✓	✓	✓	✓	✓	✓	
✓					✓	✓	✓	✓	✓	✓	✓	✓	
✓	✓		✓		✓	✓	✓	✓	✓	✓	✓		✓

EXPECT MORE GENERATOR CONSTRUCTION

The isovac® range provides you with innovative electrical steel and pole sheets with convincing properties in terms of performance and sustainability. They are often found in generators for wind and water power generation.

Technology that has convinced customers worldwide. Best efficiencies also play a very decisive role in power generation. The technical properties of rim sheets, pole sheets and stator sheets play a very important role in your switch to renewable energies.



World map: generator projects worldwide

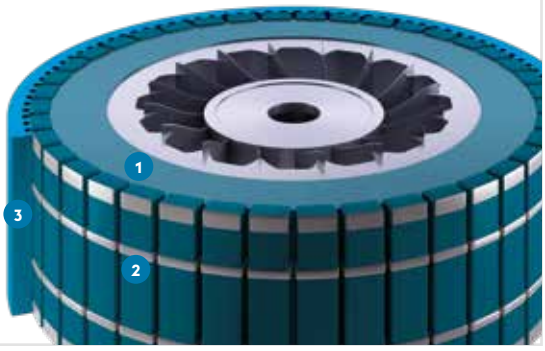
Wind power - typical grades

indirect operation:
isovac 230-50A to 350-50A,
isovac 310-65A to 470-65A

direct operation:
isovac 1000-100A

Hydroelectric power - typical grades

1. Web plates 700-TG-178, 750-VA-175
2. Pole sheets 350-TF-181, 450-TF-179
3. Stator sheets isovac 230-50A, isovac 210-35A



EXPECT MORE
DURABILITY

isovac® for static machines

Customized, high-quality isovac® grades for static machines are used in special applications such as reactance coils for power conversion, shielding systems used in medical technologies or highly complex particle accelerators (synchrotrons). We are continually developing and optimizing isovac® grades in close collaboration with our customers.

Static machines		isovac®		Core losses		
		fully processed [1]	semi-processed	low	moderate	high
Maximum width [2]	[mm]	1,600	1,600			
Thickness [2]	[mm]	0.25–1.0	0.5–1.5			
Cut shapes						
Ballasts and ignition coils		✓	✓		✓	
Welding transformers		✓	✓		✓	✓
Transformers		✓		✓		
Magnets and shielding		✓		✓	✓	✓
Contactors		✓		✓	✓	
Amplifiers and reactance coils		✓		✓	✓	

 Coil  Slit strip  Cut shapes

[1] Including NO grades
[2] Further thicknesses and widths upon request

Insulating varnishes					Grades					
uncoated	C-3	C-5	C-6	Backlack	standard	HP	HC	HF	HS	HE
✓		✓			✓	✓	✓			✓
		✓			✓					✓
		✓				✓				
✓	✓	✓		✓	✓	✓				
✓		✓		✓		✓		✓		
		✓		✓		✓	✓	✓		

TECHNICAL CONSULTATION

Do you have special requirements? Our technical experts will be happy to assist you with all of your concerns and work with you in developing customized solutions.

EXPECT A WIDE PRODUCT RANGE

As individual as the customer. The isovac® product range includes conventional international standards as well as special grades with special properties.

Coils (non-slit)	Thickness [mm]	Width [mm]	Inner diameter [mm]	Outer diameter [mm]
isovac®	0.25–1.0	1,000–1,600	approx. 600	max. 2,000
Cold-rolled pole sheets	0.7–1.0 [1)]	1,100–1,600	approx. 600	max. 2,000
Hot-rolled pole sheets	2.0–12.0	900–1,620	approx. 600	max. 2,000

Slit strip (slit)	Thickness [mm]	Width [mm]	Inner diameter [mm]	Outer diameter [mm]
isovac®	0.25–1.0	19–1,600	500 / 600	850–2,000
Cold-rolled pole sheets	0.7–1.0 [1)]	19–1,600	500 / 600	850–2,000

Cut sheets (cut-to-length)	Thickness [mm]	Width [mm]	Length [mm]
isovac®	0.25–1.0	300–1,550	300–5,000
Cold-rolled pole sheets	0.7–1.0 [1)]	300–1,550	300–5,000
Hot-rolled pole sheets	2.0–12.0	900–1,620	1,500–14,000

Indicated references are standard values. Limitations are possible depending on thickness.
[1)] Thickness < 1.0 mm upon request

Supply options, special widths and thicknesses
Customer-specific widths and thicknesses can be quickly produced and supplied without any complications with the help of our integrated production process and high-performance logistics. Our supply capabilities are dependent on steel-grade-specific dimension limitations.

Max. widths can be found in the data sheet for each grade at
www.voestalpine.com/isovac/en/Product-overview/Data-sheets

EXPECT THE PERFECT ISOLATION

Additional treatment to extend electrical steel functionality. We offer the highest quality in our insulating varnish systems. In close cooperation with leading European varnish producers, we supply insulating varnishes that meet specific customer requirements. The varnishes do not contain any toxic, carcinogenic or mutagenic substances.

C-3	Organic insulation system	This insulation system leads to improved stampability.
C-5	Inorganic/organic insulation system	C5 insulation systems possess good weldability and resistance to annealing (under protective gas up to 850 °C).
C-6	Inorganic/organic insulation system	C6 coatings are pressure-resistant, thermal-resistant up to 420°C and suitable for burn-off repair. They are also highly insulation-resistant.
BL	Backlack for efficiency in electrical steel laminations	Backlack technology is an innovative joining technique used in the production of electrical steel packages. A controlled chemical process is used to cleanly and compactly join coated laminations. The technology is characterized by a number of efficiency and processing advantages when compared to conventional joining techniques.

NOTE
Our electrical steel and pole sheets are generally supplied pursuant to the conventional standards (EN 10106, EN 10303, EN 10341, EN 10265, IEC 404-8-4, JIS C2552, GOST 21427.2, ASTM A677, AISI, IS 648, GB/T2521). The precise limit dimensions available for each grade are found in the respective data sheet.

NOTE
Please follow the processing instructions for Backlack:
www.voestalpine.com/isovac/en/Product-overview/Backlack

EXPECT MORE PRECISION

For more efficiency in processing. We are fully committed to the state-of-the-art technical product properties demanded by the market. Our claim to narrow shape tolerances and processability goes much further.

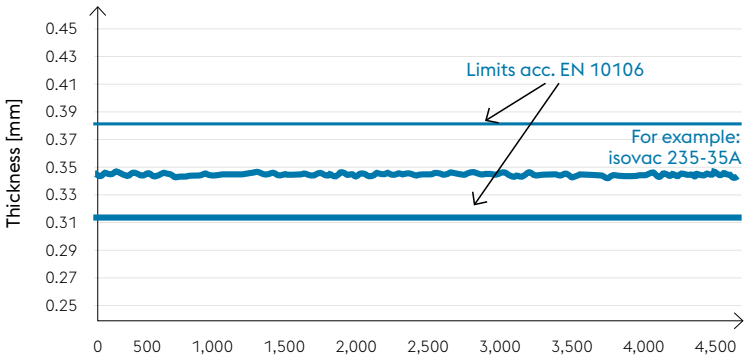
Mechanical properties and insulation

Mechanical properties guarantee both the functionality of rotating electrical machinery and, more importantly, the processability of the steel strip. Consistent mechanical properties as well as clean surfaces that cause minimal abrasion on the punching tool are prerequisites to optimized punching processes. One possibility of reducing tool wear and improving the punching process is the application of an insulating layer on the steel surface. The layer acts as an insulator and is especially effective in providing lubricating action for the punching tool.

- Uniform mechanical properties
- High chemical material purity
- Very good adhesion between the material and insulation
- Continuous insulation thickness
- No defects in insulation

Geometric properties

The result of our stable and continuous rolling process is a reduction in the steel strip thickness tolerance value. The subsequent continuous annealing makes it possible for us to reduce material stress to a minimum and manufacture components with the highest precision.



- Narrowest tolerances in the strip in both longitudinal and cross direction for consistent package parallelism
- No damage to slit edges and strip surfaces
- Low stress in hot-rolled and slit strip (no strip waviness, high shape consistency)

Cleanliness

Consistent mechanical properties, narrowest tolerances and clean strip surfaces must be continuously guaranteed in order to allow efficient and problem-free processing. We minimize production residues as far as possible. Additionally, extremely abrasion-proof insulation coatings with good adhesion properties can be applied to the steel surface.

- Good insulation adhesion
- Minimum abrasion during slitting and punching

Adhesive bondability

A successful adhesive bonding process is dependent on the bondability of the insulation on the steel surface. For example, Backlack is a special insulating varnish for electrical steel. The main purpose of this varnish is to bond the individual lamellas with each other and create a compact laminated core without any short circuits. The use of Backlack allows us to achieve very complex geometries.

- Surface free from dust, oil, grease and silicon residues
- High level of insulation adhesion
- Optimized for full-surface adhesive bonding
- Homogeneous adhesive bonding
- Innovative coatings with Backlack and backlack-v®

TECHNICAL CONSULTATION

Our technical experts will be happy to assist you with any of your concerns. We will also be happy to provide consultation services for the optimization of prematerial widths and will gladly assist you in the creation of nesting diagrams for segment sheets.

EXPECT MORE INNOVATIVE POWER

Our electrical steel grades are produced in the steelmaking plant based on the individual order placed by the end customer. This makes it possible to implement and monitor customer-specific specifications in the early stages and to guarantee the continuously high quality of our electrical steel.

Customer-specific process assistance

- Pre-production consultation with respect to specifications
- Comprehensive chemical analysis in an effort to reduce fluctuations in alloying elements
- Testing of material properties in as-delivered condition based on customer specifications in an accredited testing laboratory

Continuous process monitoring

- Permanent, comprehensive monitoring of parameters in all production lines
- Permanent measurement of strip dimensions
- Automated and manual surface inspections

Most modern plant engineering

- New plant systems for higher standards in the production process
- Regular maintenance and modernization of existing plant systems

Highly qualified employees

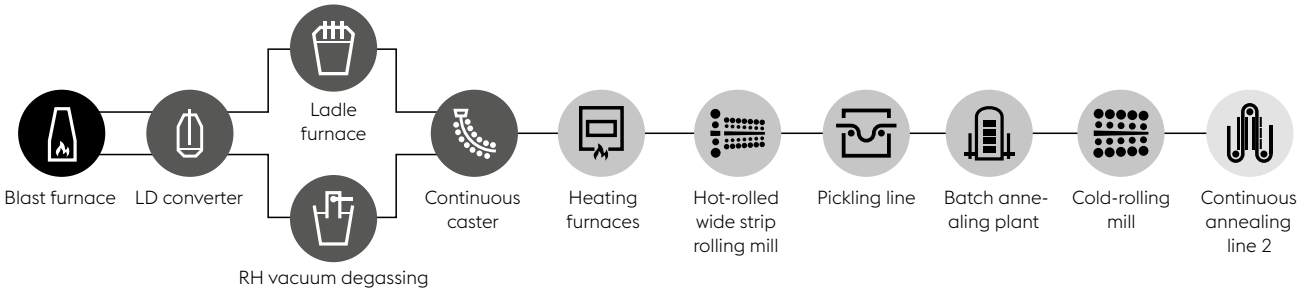
- Product-specific expert knowledge
- Employees with many years of experience with the production process
- Regular continuous education and training
- Continual safety training

EXPECT MORE RESEARCH & DEVELOPMENT

Partnerships for maximized output

Intense development, research partnerships with university organizations and market-leading car manufacturers and the most modern technologies make us one of the Europe‘s centers of competence for non-grain-oriented electrical steel. Industry-specific material and processing expertise, specific tests and simulations guarantee our excellent product quality.

Maximized output thanks to steelwork simulations
Customer requests can be processed and individual isovac® grades produced within a short period of time thanks to steelwork simulations. This shortens development times.



EXPECT MORE
TESTING METHODS

For the highest quality requirements. Once the electrical steel strip is produced, we perform measurements in our accredited testing lab as required by the applicable electrical steel standards, e.g. DIN EN 10106, DIN EN 10303 or DIN EN 10341. We can perform tests to customer specifications upon request.

STEP 1: Automated sampling with initial testing in the integrated CATS measuring system

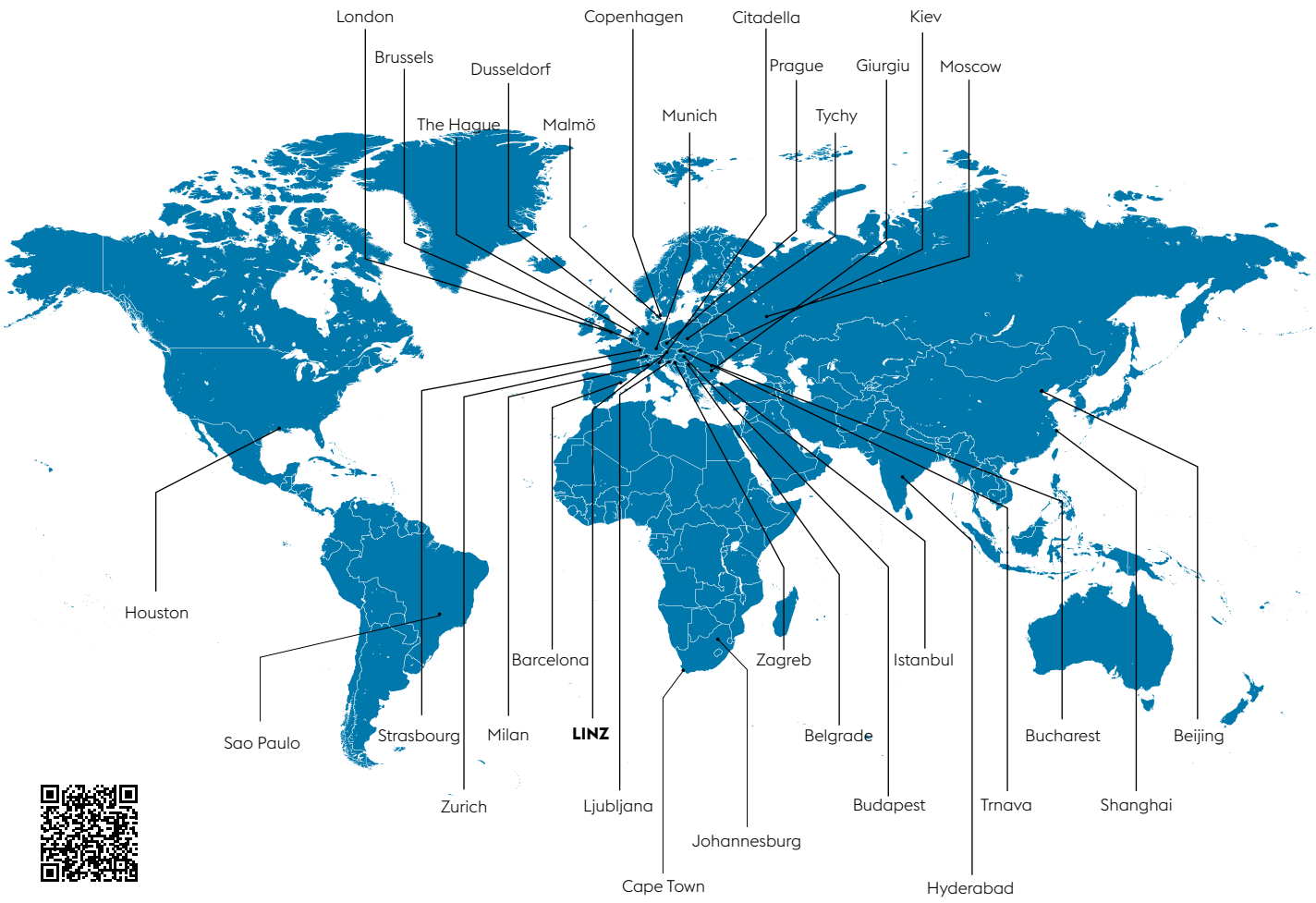
Our continuous annealing testing station (CATS) is used for the automatic testing of samples directly following production. The coating layer thickness and insulation resistance (Franklin Test ASTM 717) are both measured. Further evaluations of the coating include crosscut testing and coating hardening assessments. Residual curvature is also examined. With more than 100,000 samples tested annually, our CATS measuring system contributes considerably to a high level of product quality.

STEP 2: Additional tests in the new testing center

The magnetic and mechanical properties of the electrical steel are subsequently determined in our new testing center. Preparation of the test specimens and the testing itself are fully automated for the most part. For example, magnetic property measurement is robot-controlled on two Epstein frames pursuant to DIN EN 60404-2. Depending on the requirements, a frequency range between 0 and 2500 Hz is possible (depending on the steel grade). Mechanical properties are determined by means of a tensile test, and other important parameters such as the stacking factor, number of bends and hardness are assessed. Initial testing of the adhesive suitability of Backlack coatings is performed using a tensile lap-shear test (according to EN 1465, reinforced).

EXPECT MORE
CUSTOMER FOCUS

A TOTAL OF MORE THAN 25 voestalpine SALES AND DISTRIBUTION OFFICES ARE AT YOUR DISPOSAL.
www.voestalpine.com/eurostahl



Please find more detailed information here:
www.voestalpine.com/eurostahl/International-sales-and-distribution

Customized and personal.
With a total of 500 subsidiaries and locations in more than 50 countries, we are represented on all five continents of the world and are a global player whose highest priority is to provide personal, individualized and highly professional customer service on a local basis.

A proven track record when it comes to quality
The companies of the voestalpine Steel Division meet the highest standards of quality management and are certified pursuant to Lloyd's Register QA Ltd. in the United Kingdom as well as ISO 9001 and IATF 16949. Our high standard of quality is also underlined by numerous best supplier awards for quality performance, including awards presented to voestalpine by renowned automotive manufacturers. We focus continually on this pursued path as well as on the consistent implementation of all our quality standards.

EXPECT MORE
100 % PERFORMANCE

Are you ready for the package deal?

isovac® electrical steel for highest energy efficiency. We combine isovac® with our unique services, innovative materials, logistics, commercial advise and technical consultation in order to provide you with a comprehensive package of benefits.

BEST PRODUCT PROPERTIES FOR MAXIMUM PERFORMANCE

HIGHEST ENERGY EFFICIENCY THANKS TO INTENSE RESEARCH AND DEVELOPMENT

Maximum performance
Low eddy-current and hysteresis losses in electrical steel is of decisive importance in order to be able to efficiently utilize the energy used in the operation of electrical machinery. The most modern production facilities guarantee the production of electrical steel for the highest performance of electrical machinery.

Customized product properties
The exclusive manufacturing of prematerial in our integrated metallurgical facilities makes it possible for us to unceasingly monitor and ensure the high quality of all processing parameters. This results in a tailor-made product that meets the highest quality standards.

High magnetic polarization and permeability
Magnetic polarization and permeability are essential values in the engineering of electric machinery. Only high induction allows efficient utilization of available energies.

Material homogeneity
High process reliability and low tolerances through continuous rolling and annealing processes guarantee homogeneous material in the interest of mechanical, magnetic and geometric properties. This leads to stable material processing, low tool wear, less scrap accumulation and rejects as well as high dimensional accuracy of the stamped part.

High thermal conductivity
High thermal conductivity permits further optimization of performance. The innovative alloy design and the high chemical degree of purity of isovac® grades significantly increases thermal conductivity.

EXPECT MORE 100 % GREEN POWER

Are you ready for a green future?

The question of sustainable conservation of resources can only be whether our world will be a livable place tomorrow. Set a new standard with our innovative isovac® electrical steel and contribute to a more sustainable and environmentally compatible future.

OUR WORLD WILL BE A LIVABLE PLACE TOMORROW

SUSTAINABILITY AS A STRATEGIC PRINCIPLE

100% recyclability
Our isovac® electrical steel is 100% recyclable. When calculating costs across the entire product lifecycle, steel shows substantial advantages in eco-balance when compared to other materials.

Lowest emissions
Our optimized production processes guarantee the lowest emissions. This reduces the environmental impact and sustainably increases the quality of life for future generations.

Recycled materials
67% of all incurred recycling materials and wastes are returned to the production process. This recycling process requires few natural resources and minimizes waste.

Free from chromate and formaldehyde emission
In collaboration with leading European varnish manufacturers, we supply insulating varnishes that contain no toxins, carcinogens, mutagens, formaldehyde or chromium compounds. The coatings meet all applicable EU directives.

Low energy consumption
Intelligent utilization of released energy and optimized selection of process parameters in the production of isovac® leads to substantially lower overall energy consumption than in conventional manufacturing processes.

Most ecological steelmaking plant in the world
We assume holistic responsibility for our products, continually optimize our production processes and develop our environmental management systems. We see environmental protection as the responsibility of each employee.

EXPECT MORE
0% TROUBLES

Are you ready for a careless package deal?

We will never be satisfied with excellent product quality alone. Comprehensive services and unlimited dedication to your challenges are at the core of our philosophy.

WE THINK IN TERMS OF SOLUTIONS

THE FOUNDATION OF OUR PARTNERSHIP IS BASED ON SOLUTIONS.

Development advantages
Our experience and continued research activities make it possible for us to develop innovative steel grades that help you more effectively meet your challenges in the future and provide you with a decisive competitive advantage.

Technical consultation and support
Our experts will support you with their excellent knowledge of the industry and materials and will be pleased to answer your questions. They guarantee comprehensive technical consultation pertaining to materials and applications.

Always close to you
Our international sales organization creates a direct connection between the customer and the production companies. Our sales organizations and representatives guarantee worldwide best consultation and expert solutions from a single source.

Precisely tailored to your needs
Each of the plants required for the production of high-quality steel strip is located in our modern steel works next to related facilities and is highly integrated into the production process. This makes it possible for us to react quickly and personally to your specific product requirements and to provide you with customized solutions.

Supply-chain management and logistics
We work together with you to devise the most optimized route, the best means of transport and, where necessary, comprehensive logistics strategies in order to guarantee availability and on-time delivery at the desired destination.

Process support
We support you throughout the entire process from placement of the order to delivery of the material. Whether it be in annealing trials, the adjustment of a stamping tool or assistance in making the transition to a new grade, our highly professional employees offer their expertise to you each step of the way.

0% Troubles

09/2022

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voestalpine
ONE STEP AHEAD.