

colofer®

FOR THE HOUSEHOLD-APPLI- ANCE INDUSTRY

More than just organic-coated
steel strip



Christoph Angeli, Customer Service

voestalpine Steel Division
www.voestalpine.com/colofer

voestalpine

ONE STEP AHEAD.



colofer®

MORE THAN JUST ORGANIC-COATED STEEL STRIP

Welcome home!

With colofer® HOME, one of the most innovative materials of voestalpine comes right into your own home. A material that offers individual solutions and sets no limits to new creative design in the field of household appliances.

colofer® offers a material optimized for household appliance manufacturers, impresses with its perfect processability and convinces with maximum quality and performance along the entire value chain. Continual research and further development in collaboration with leading manufacturers, inline quality control and optimized production systems ensure that voestalpine provides only the best product quality to its customers.

And all this without sacrificing sustainable and environmentally friendly production processes. The colofer® production facilities have been free of chromates since 1998, long before the RoHS directive came into effect. Our Steel Service Center will be happy to provide you with support with comprehensive possibilities of further processing, for example of slit strip or cut sheets.





To find out more about colofer®,
please visit us at
www.voestalpine.com/colofer



Eco-Pioneer



Made in Austria



colofer® Service

SEE FOR YOURSELF WHAT colofer® CAN DO!

Discover the possibilities of colofer®.

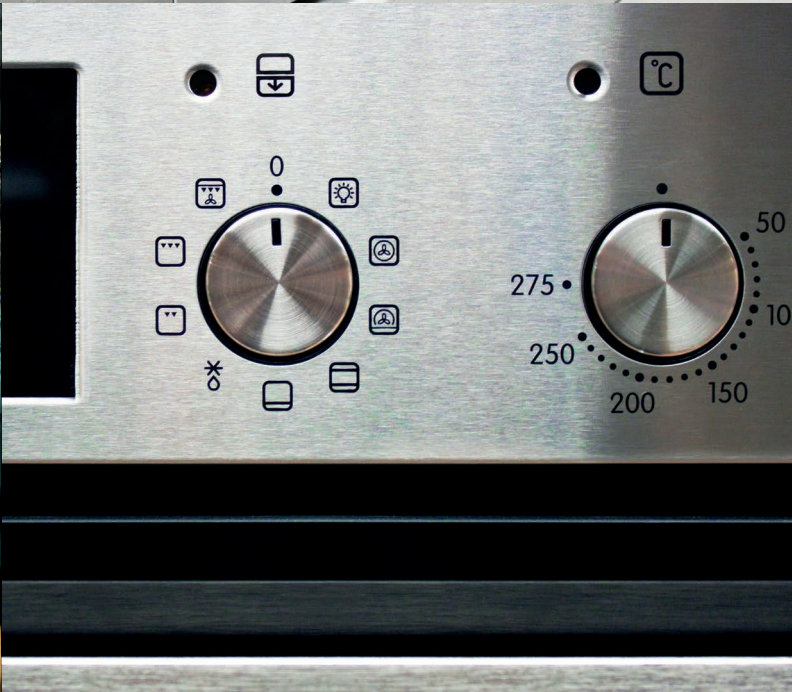


colofer® offers versatile application possibilities. Just like the wishes of your customers. And you can effortlessly meet individual material demands and requirements while providing modern household appliances of the highest quality.

colofer® HOME, the organic-pre-coated steel strip for the household-appliance industry, optimally meets individualized customer requirements with perfect surface properties. colofer® HOME is the perfect solution for unique products and highest quality when it comes to washing, refrigerating, drying or cooking.

On the following pages, you will find out more about colofer®, the organic-coated steel strip by voestalpine, and discover what the added value of colofer® can bring to your household-appliance applications.

- » Dishwashing
- » Laundry
- » Cooling
- » Drying
- » Cooking



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OVERVIEW OF colofer® HOME



colofer® HOME CLASSIC
Classical design in white.

In the areas of washing, refrigerating, drying or cooking, colofer® HOME CLASSIC is convincing in every application with continuously high product quality and can be adapted precisely to individual customer requirements in shades of white, degrees of gloss and many other details. You can choose between smooth and structured surfaces.

colofer® HOME CLASSIC CLASSIC is smooth or textured and available in various gloss levels and whites:



colofer® HOME COLOR
Cool design shows its colors.

Individuality through subtle color accents! colofer® HOME COLOR offers you an extremely wide range of standard and metallic colors that can be used to differentiate yourself from the competition and give a very personal touch to your final products.

colofer® HOME COLOR is available in various colors and gloss levels:



colofer® HOME SILVER
Diversity in glittering silver.

Trendy and timeless are not contradictory terms! colofer® HOME SILVER provides a highly modern design and elegant appearance. With a nearly inexhaustible selection of various silver shades, colofer® HOME SILVER makes it possible to meet the most individual customer requirements.

colofer® HOME SILVER is available in various silver shades:





colofer® HOME ILLUSION

Phantasy knows no bounds.

Impressively genuine! A wide variety of different surfaces are made impressively true to life by colofer® HOME ILLUSION, for example stainless steel, brushed aluminum or carbon. At the same time, the product is highly flexible in function and boasts the highest levels of material quality.

colofer® HOME ILLUSION

is available in different looks, including stainless steel, aluminum, wood or carbon:






colofer® IS AVAILABLE WITH THE FOLLOWING SUBSTRATES:

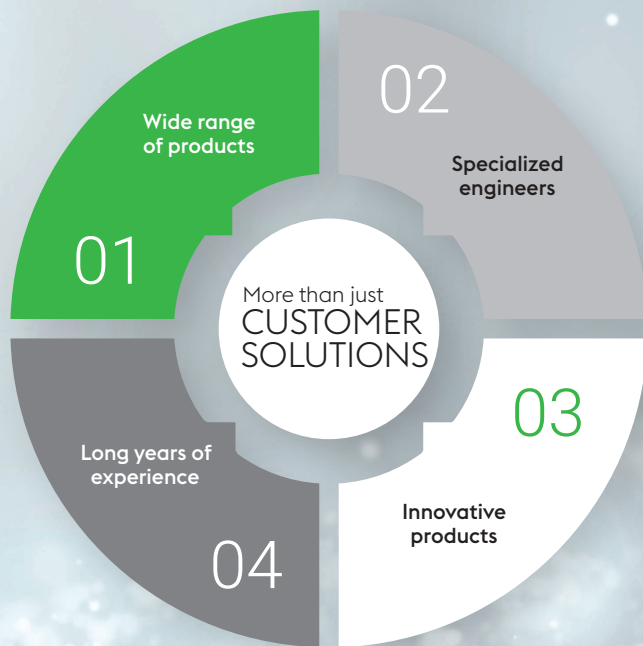
- » Cold-rolled steel strip (upon request)
- » Hot-dip galvanized steel strip
- » Electrogalvanized steel strip (upon request)

It is important to note that the mechanical and technological properties of the base material can fluctuate as a result of coil coating processes.

RANGE OF PRODUCTS

Wide strip (non-slit) 	Thickness [mm]	Width [mm]	Inside diameter [mm]	Outside diameter [mm]
	0.45 – 2.5	900 – 1,730	500 / 600 ¹⁾	2,000
Slit strip (slit) 	Thickness [mm]	Width [mm]	Inside diameter [mm]	Outside diameter [mm]
	0.45 – 2.5	10 – 1,730	500 / 600 ¹⁾	700 – 2,200
Cut sheets (cut-to-length) 	Thickness [mm]	Width [mm]	Length [mm]	
	0.45 – 2.5	210 – 1,730	200 – 6,700	

¹⁾ Indicated values are standard references.



MORE THAN JUST CUSTOMER SOLUTIONS

colofer® HOME does not simply stand for the purchase of pre-painted material for applications in the household appliance industry. colofer® HOME stands for a long-standing and reliable partner who, far away from standard products, meets the requirements of customers in the best possible way. It is just as much the right product for customers who have never used pre-coated material before or for those who have been working in a development partnership to meet highly complex demands. In every case, the supply of colofer® HOME is based on many years of experience.

Broad range of products

You will hardly ever hear us say no. Our broad spectrum of pre-coated products for the household appliance industry meets all customer requirements, irrespective of the color, structure or function.

Technical specialists

How is pre-coated material bonded? Is clinching possible? Can stain resistance be increased? The customers of voestalpine are given all the answers to these questions by our expert researchers who specialize in the household industry and our technical advisors with their in-depth knowledge of pre-coated materials.


Innovative products

Precoated material as a functional replacement for colaminate sheet? Or precoated steel strip with a stainless steel appearance as a replacement for authentic stainless steel? colofer® HOME makes it possible!

Many years of experience

Our experience enables us to proactively suggest efficiency improvements, production processes and final design of the end devices. Customers converting to pre-coated materials or using them to substitute other materials will also profit from our experience and expertise.

PERFECTLY MATCHED
LAYERS FOR UNIQUE
PRODUCT PROPERTIES.

-  Protective film
-  Cover coat
-  Primer
-  Pre-treatment
-  Protective metallic coating
-  Substrate
-  Protective bottom-side coating

OVERVIEW OF PRODUCT PROPERTIES

Properties requirement	Testing standard/Inspection	Typical values
Coating thickness	EN 13523-1	> 21 µm
Colors	ISO 3668 EN 13523-3	upon request
Surface appearance	-	upon request, smooth or structured
Gloss (60°)	EN 13523-2	upon request
Adhesion (cross cut)	ISO 2409	0
Adhesion after bending	EN 13523-7	≤ 0.5 T ¹⁾
Crack formation after bending	EN 13523-7	≤ 2 T ¹⁾
Scratch resistance	based on EN 13523-12	> 15 N
Resistance to solvents	EN 13523-11	≥ 50 DH
Resistance to rapid deformation (Impact test)	EN 13523-5	≥ 18 J
Corrosion resistance » Salt spray test	EN 13523-8	Test duration: 240 h No formation of blisters on surface
Resistance to humidity » Continuous humidity test	EN 13523-25	Test duration: 500 h No formation of blisters on surface
Recommended processing temperature		20 – 40 °C
Environmental impact		RoHS-compliant

¹⁾ Dependent on coating type and sheet thickness
The indicated values do not apply to colofer® HOME ILLUSION. These values are available upon request.

STATE-OF-THE-ART COIL COATING

Thanks to automated processes and strict quality controls on one of the most modern and environmentally friendly coil coating lines in Europe, the high quality of colofer® remains 100% the same. Combined with a wide variety of paint systems, the result is a large selection of designs with unique properties in terms of durability and processability.



Tested quality made in Austria

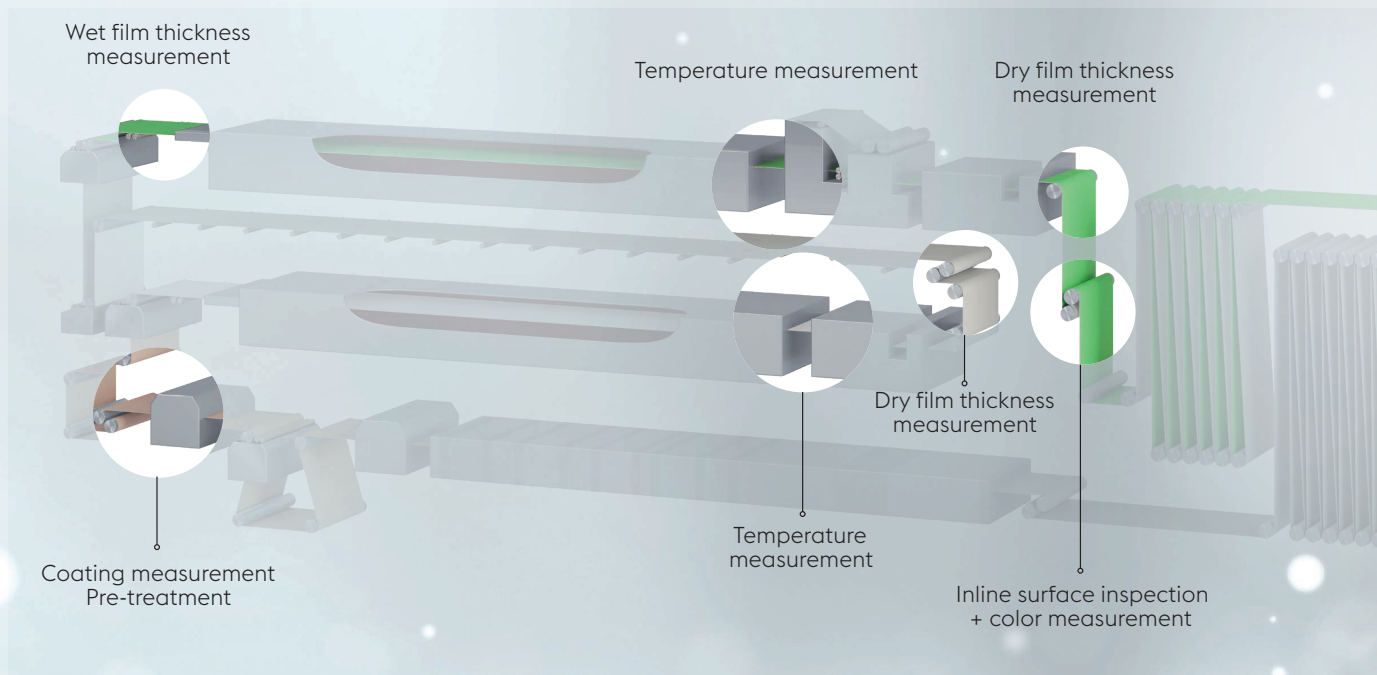
Consistently high-quality colofer® products meet your specifications 100%. The more extreme the conditions, the more it shows that our aspiration to provide the best quality pays off. On top of this, our scientists continuously work on the further development of our products.



Consistently high quality

All product properties, e.g., color, gloss, hardness, flexibility, etc., are substantially influenced by the production process. Our modern equipment and high-precision measurement methods (testing stand, coil inspection, online color detection) ensure the best quality from the first to the last meter.

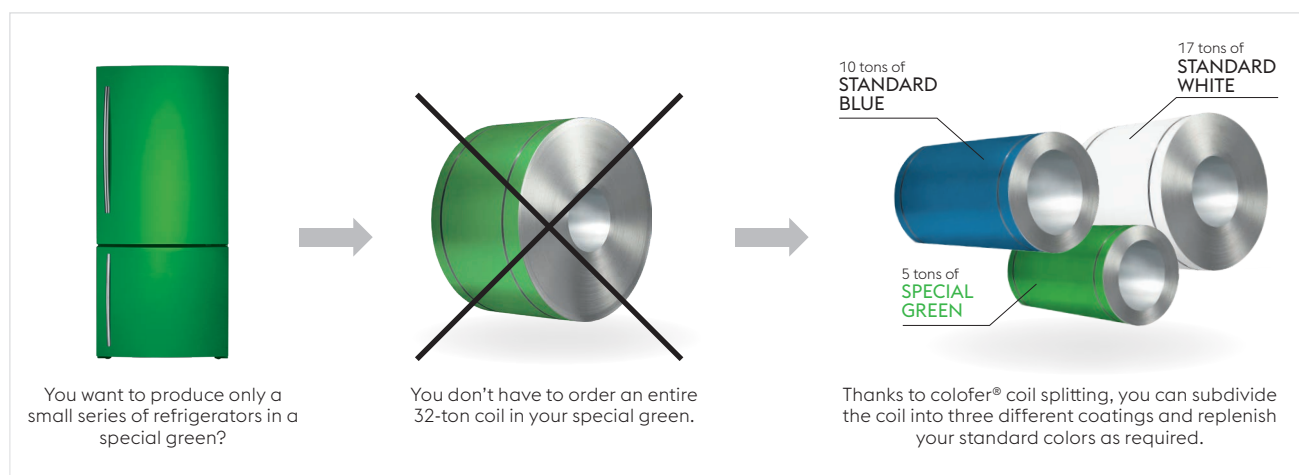
- » One of the most technically sophisticated coil coating lines in Europe
- » Online measurement over the entire length of the strip
- » Using layer thickness and furnace operation to correct color
- » Measuring points from base material to finished product
- » Highly skilled quality assurance
- » 100% consistent product quality



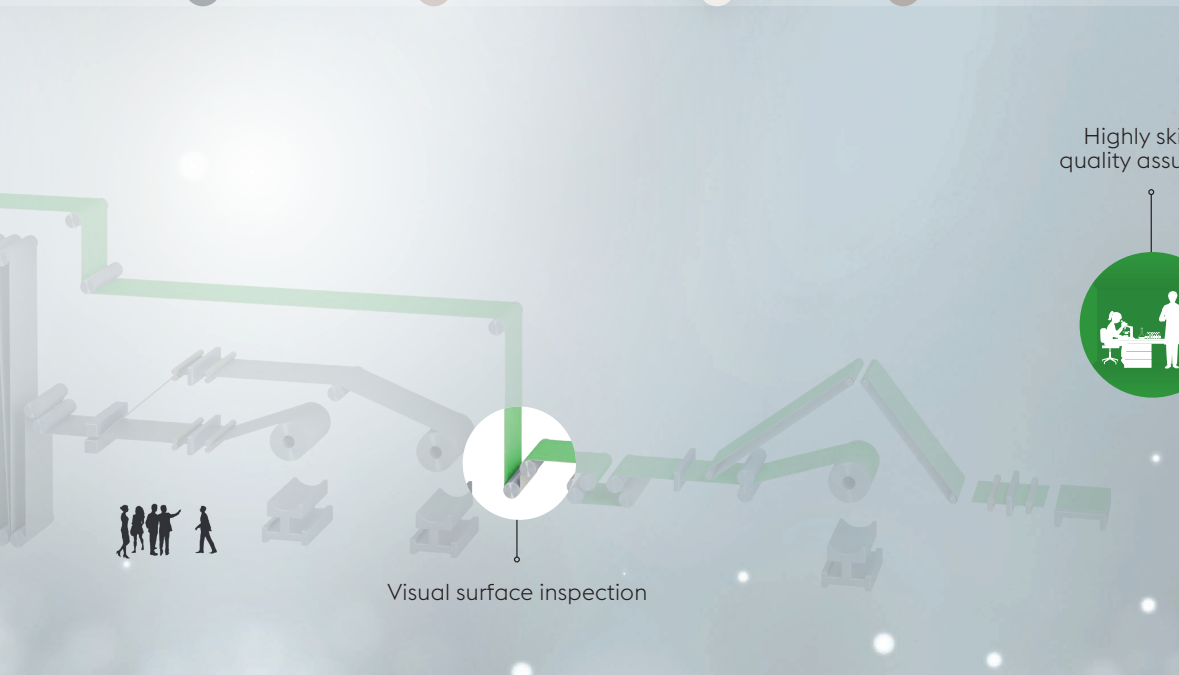
colofer® COILSPLITTING

colofer® coilsplitting: up to three coatings per coil

Small batches are available from five tons and above, and thanks to colofer® coil splitting, you can subdivide a coil in up to three different coatings instead of having to order a coil in one special color. This makes it possible to optimally coordinate quantities and requirements, thus reducing left-over material and costs.



Steel strip
 Pre-treatment
 Primer
 Bottom-side coating
 Cover coat



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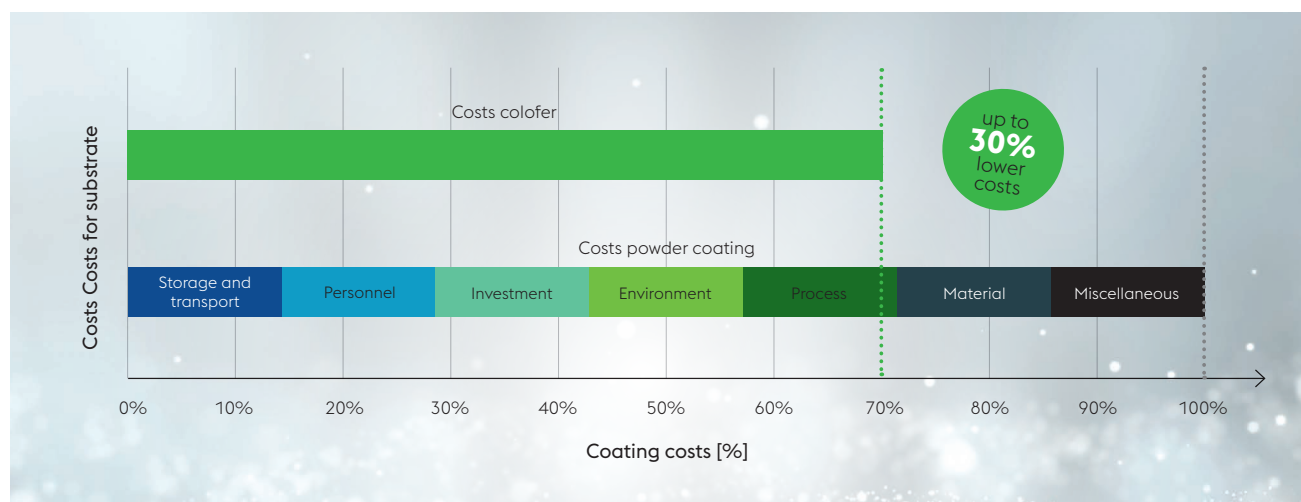


colofer® Service

colofer® VS. POWDER-COATING?

COST SAVINGS

Using pre-painted steel strip not only increases the quality of your products, but also reduces your costs! Analyses have shown a savings potential of up to 30%.



THE TOTAL COSTS OF POST-PAINTING RESULT FROM:

Storage and transport

Internal transport costs (transport equipment for bulky parts, transport areas, storage areas), pre-material safety stock (painted semi-finished parts), paint safety stock

Investment, depreciation

Plant costs (pretreatment, coating, enameling furnaces, cooling zones), safety installations, additional laboratories, storage for chemicals and powder (dangerous goods), insurance, service of capital

Environmental protection costs

Expenses for complying with ever stricter environmental regulations (waste water treatment, powder recycling, etc.)

Coating process costs

Combustibles, energy, power, water, rejects, IT

Material costs of the coating process

Coating materials (powder paints, operating supplies, cleaning agent, degreasing agent, pretreatment chemicals) and disposal of coating materials








Miscellaneous expenses

Permits, administration, possible additional expenditures in handling (more complex assembly for design reasons)



QUALITY ADVANTAGES

100% high-quality material is produced consistently, thanks to automated processes and the strictest quality controls on one of the most modern and environmentally friendly coil coating lines in Europe. Many different high-tech coating systems are combined to create a wide variety of different designs (degrees of gloss, surfaces and special innovative products such as stainless steel appearance or silver color tones) with unique properties with respect to layer thickness, resistance and processability.

-  Availability of various designs
-  Flexibly meeting ever changing demands
-  Avoidance of bottlenecks
-  Compliance with RoHs regulations, REACH requirements and environmental management standards
-  Excellent corrosion resistance
-  Logistics simplified through bundling of all required steel products
-  Flexibility in meeting requirements such as new dimensions, components or product series

MORE THAN JUST
COST ADVANTAGES ON
A CONTINUOUS BASIS.



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colofer® HOME CLASSIC

Classical design in white

We set the standards with our standard products as well: In the areas of washing, refrigerating, drying or cooking, colofer® HOME CLASSIC is convincing in every application with continuously high product quality and can be adapted precisely to individual customer requirements in shades of white, degrees of gloss and many other details. You can choose between smooth and structured surfaces.

- » Consistently high product quality
- » Varying degrees of gloss
- » Smooth and structured surfaces



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colofer® HOME COLOR

Cool design shows its colors

Individuality through subtle color accents! Brighten up the day with colofer® HOME COLOR and add color to the grayness of everyday life. This product series offers you an extremely wide range of standard and metallic colors that can be used to differentiate yourself from the competition and give a very personal touch to your final products.

- » Standard and metallic colors
- » Nearly unlimited selection
- » Smaller lot sizes possible



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colofer® HOME SILVER

Diversity in glittering silver

Trendy and timeless are not contradictory terms! colofer® HOME SILVER provides a highly modern design and elegant appearance. With a nearly inexhaustible selection of various silver shades, colofer® HOME SILVER makes it possible to meet the most individual customer requirements.

- » Standard and metallic silver color tones
- » Numerous color nuances
- » Smaller lot sizes possible



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colofer® HOME ILLUSION

Phantasy knows no bounds

Impressively genuine! A wide variety of different surfaces are made impressively true to life by colofer® HOME ILLUSION, for example stainless steel, brushed aluminum or carbon. At the same time, the product is highly flexible in function and boasts the highest levels of material quality.

- » High-quality imitation of a wide variety of appearances
- » Excellent functionality
- » Individualized appearance



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MORE THAN JUST ENVIRONMENTALLY COMPATIBLE THE ECO-PIONEER

colofer® is a true pioneer when it comes to protecting the environment, employee health and safety

As early as 1998, we converted to an environmentally compatible method for the production of colofer®. Since then, colofer® has been completely free of chromate without compromising excellent product performance or warranty periods.

WHY IS THE „F“ IN colofer® GREEN?

ON A CONTINUING
BASIS, voestalpine SETS
ENVIRONMENTAL
STANDARDS AND DOES
JUSTICE TO ITS REPUTATION
AS AN ECO PIONEER.

Environmentally compatible and sustainable steel production

Active environmental protection is firmly anchored in our company philosophy. In the production of our steel products, we continually strive to conserve valuable resources, to keep the environmental effects of our production processes to a minimum and to increase material and energy efficiency as much as possible. voestalpine has been the recipient of various international awards and was the first steelmaking company to receive the Green Brands award for consistently ecological and sustainable activity (2016). As one of the most sustainable companies in the steelmaking industry, voestalpine was named the Steel Sustainability Champion (2017) by the World Steel Association (worldsteel).

Environmentally compatible strip coating line

Each year, the colofer® strip coating line is among the best with respect to environmental parameters such as CO₂ emissions, water treatment and energy consumption in the annual benchmarking analysis carried out by the European Coil Coating Association (roughly 90% of all companies in the industry and more than 50 strip coating lines are included in this survey).

Top performance

You don't have to choose between environmental protection and product performance. colofer® excels in both areas. Applications in RC5 environments (coastal regions, industrial atmospheres) and guarantee periods of up to 40 years prove our point. We have progressed far along the learning curve and building on our vast experience, we are already working today on solutions for the requirements of tomorrow.



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MORE THAN JUST QUALITY HIGH QUALITY MADE IN AUSTRIA

colofer® always complies 100% with the respective specifications

Thanks to our integrated steel mill at the Linz location, we always have full control of all value-adding process steps involved. colofer® is produced in a single facility using high-precision measuring methods. As a result, our customers benefit from consistently high quality and from products that strictly comply with the agreed specifications.

WHAT'S THE SECRET BEHIND THE EXCELLENT QUALITY BY colofer®?

HIGH-TECH STEEL STRIPS
PRODUCED BY voestalpine
AND PAINTS FROM RENOWNED
EUROPEAN MANUFACTURERS
ARE THE BASIS FOR THE
CONSISTENTLY HIGH
LEVEL OF QUALITY THAT IS
CHARACTERISTIC OF colofer®.

Best pre-material

High-tech steel strips produced by voestalpine and paints from renowned European manufacturers are the basis for the consistently high level of quality that is characteristic of colofer®. Thanks to our integrated steel mill at the Linz location, we always have full control of all the value-adding process steps involved. From the ore to the paint.

Consistently high quality

All product properties, e.g. color, gloss, hardness, flexibility etc., are substantially influenced by the production process. Our modern equipment and high-precision measurement methods ensure the best quality from the first to last meter. colofer® is produced in a single facility at the Linz location. As a result, our customers benefit from consistently high quality and from products that strictly comply with the agreed specifications.

Tested quality and continuous further development

colofer® is exposed in the field at different locations worldwide and undergoes extensive testing procedures at regular intervals. The more extreme the conditions, the more it shows that our aspiration to provide the best quality pays off. On top of this, our scientists continuously work on the further development of our products.



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colofer® Service



MORE THAN JUST PRODUCTS

colofer® SERVICE

A unique overall package of services

To us, it is an accepted fact that our products are always one step ahead.

We consider services to be part of the product itself, which is why we also strive for perfection in our services. Find out more about our colofer® services.

WHAT DOES THE colofer® SERVICE INCLUDE?

WHY IT IS A GREAT
FEELING TO BE A
voestalpine CUSTOMER.



colofer® technical support

Do you need support in making the right adjustments to your production lines? Do you want assistance selecting the right product? Do you need quick support in the event of problems? Our large pool of technical experts will be happy to assist you in any way.



colofer® colorservice

Whether it be RAL, NCS, Pantone color matching systems or corporate identity guidelines, we offer a virtually unlimited color selection. We will be happy to reproduce any color on the basis of customer samples. Thanks to our high-precision measurement methods and detailed process knowledge, we can guarantee exact color matches.



colofer® coilsplitting

Do you want to have more than one color per coil? No problem. With this service you can specify up to three colors per coil.



colofer® ROL

Enjoy the highest flexibility in production planning with colofer® ROL. Profit from daily monitoring of orders and, up to three weeks prior to delivery, the possibility to specify the colofer® product, including color, precise sheet thickness and zinc coating.



colofer® inside

Do you need help in marketing colofer® or selected colofer® products, or are you interested in a training course? We would be happy to assist you.



voestalpine Steel & Service Center

We offer high-precision slit strips and cut sheets. Thanks to our network of Steel Service Centers in Europe: With locations in Linz (Austria, headquarters), Tychy (Poland), Giurgiu (Romania), Cittadella, Vicenza and Conegliano (Italy), we provide our services close to the customer.

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