



CATALOGUE OF  
**PREPAINTED  
PRODUCTS**



# ORGANIC COATED SOLUTIONS

## CONTENTS

2	Introduction
4	Why U. S. Steel Košice
5	How we produce
8	Choosing the right product
9	Exterior applications
10	Wall
11	Roof
12	Accessories
13	Others
14	Interior applications
15	Environments
17	Interior atmosphere
18	Select base steel material
19	Coating
22	Products
23	Standard Polyester
24	Textured Polyester
25	High build Polyester
26	High durable Polyester
27	Polyurethane
28	Textured Polyurethane
29	PVDF
30	Guarantee



U. S. Steel Košice is the largest integrated producer of flat rolled steel products in Central Europe. We successfully combine Slovak technical expertise with American plant management and market oriented business experience.

BUILDING VALUE TOGETHER

### Dear business partner,

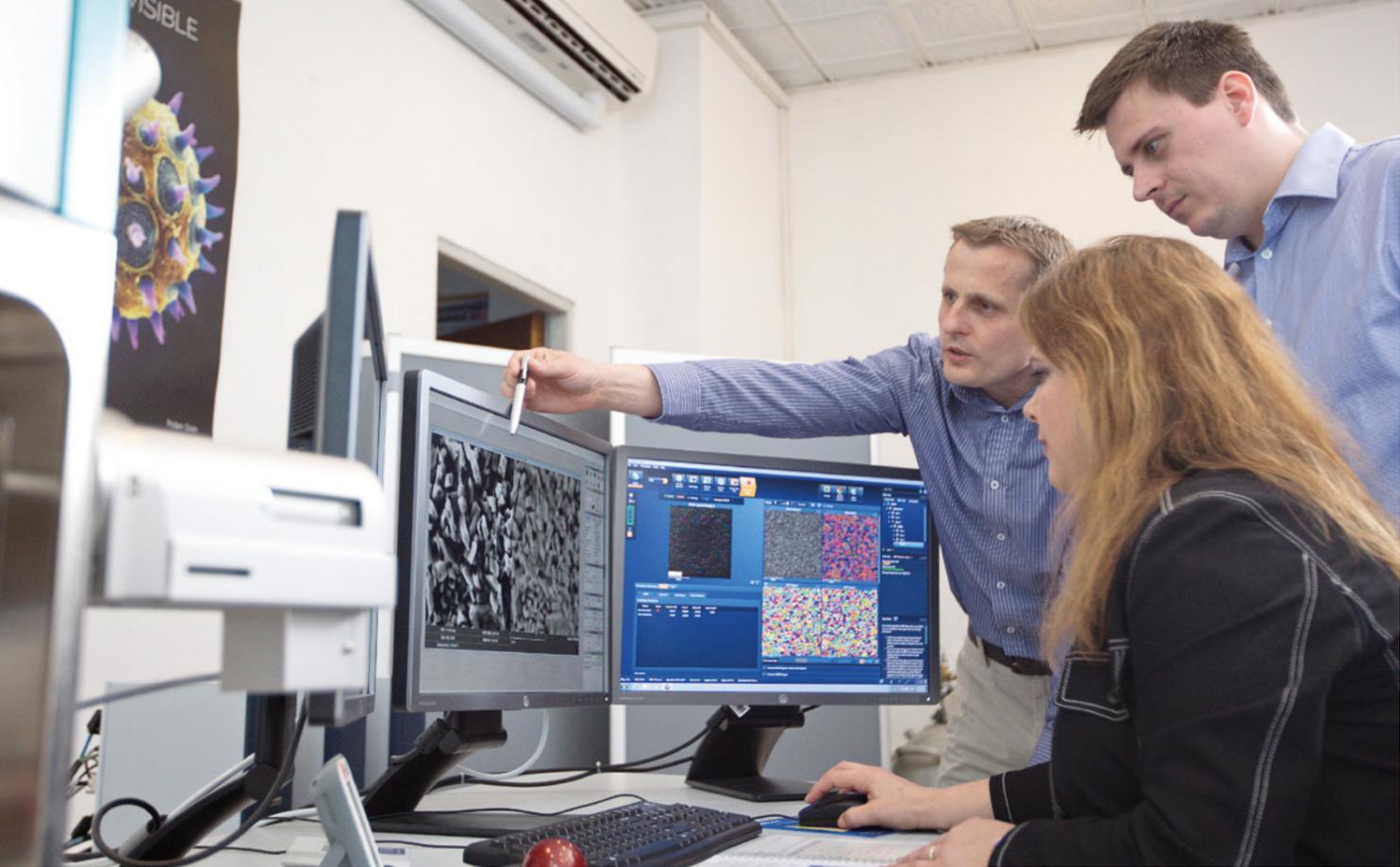
as a reliable partner, U. S. Steel Košice has been delivering high quality prepainted steel used across many industries for years. Our commitment to customer satisfaction includes maintaining the highest quality standards in the industry.

The combination of technical properties, efficiency and environmental characteristics makes organic coated steels a superior material in modern construction industry. With the

surface already treated, this steel not only increases processing efficiency and decrease consumption of energy and time, but it is also environmentally friendly. Whether it is a roof, facade or other application, we can supply prepainted steel with all the properties you need.

Looking forward to successful cooperation.

**Team Prepainted**



## WHY U. S. STEEL KOŠICE?

Five reasons why working with us is the right thing to do

-  CUSTOMER ORIENTATION
-  HIGH-QUALITY PRODUCTS
-  FLEXIBILITY
-  TECHNICAL SUPPORT
-  RESEARCH AND DEVELOPMENT



## BUILDING VALUE TOGETHER

Our product mix comprises high value-added products suitable for applications in the automotive, packaging, electrical, consumer goods and building industries. Their high quality is guaranteed by our QMS in line with ISO 9001 and other international certificates.

### Right next to you!

With our production located in Slovakia and offices across Europe, we are always within reach.

## QUALITY CONTROL CERTIFICATES

U. S. Steel Košice has implemented and applies an effective Quality Management System according to EN ISO 9001, ISO/TS 16949, Environmental Management System according to EN ISO 14001, corporate Occupational Safety and Health Management System and Energy Management System according to EN ISO 50001. We received the "2003 Award for Corporate Excellence" granted by the Department of Foreign Affairs of the United States of America for extraordinary entrepreneurial practices, innovations, quality and integrity of the company.





## 1 Processing base material

As an integrated steel producer, we use our own base material in the process. We start with galvanized coils or cold rolled coils without metallic coating.



## 2 Coating

Organic coating is applied in a precise continuous process including pre-treatment and single or multiple application of liquid paints on one or both sides.



# HOW WE PRODUCE

Organic coated steels are produced in the coil coating process where (organic) coating material is applied on a rolled metal strip in a continuous process including cleaning and chemical pretreatment of the metal surface and one-side or two-side, single or multiple application of liquid paints subsequently cured in ovens and finally rolled into coils.



## 3 Packaging and transport

Our flexible product delivery combined with comprehensive packaging options make transportation a smooth and a carefree process.





# CHOOSING THE RIGHT PRODUCT

Selecting proper base material and coating determines product properties. Color tone, gloss, surface finish (smooth, textured, wrinkled), formability, corrosion resistance, UV resistance, chemical resistance, or specific coating functions can be specified in your order.

Application

Environment

Atmosphere

Base Material

Coating

Protective Foil



# APPLICATIONS

## EXTERIOR APPLICATIONS - WALLS

Sandwich panels, cassettes, cladding materials, facades, trapezoidal and corrugated sheets, profiles

Prepainted steel is very common and widely used in the building industry and provides efficient, architecturally attractive and functional facades as well. The appearance of buildings can vary from modern metallic to various color, gloss and texture combinations, to profiled, corrugated or even flat walls. It is applicable for commercial buildings, civil residences and industrial factories. Prepainted steel provides not only flexibility in design and aesthetics, but also ultimate long-term performance. The prepainted steel cladding systems offer efficient solutions for large buildings thanks to their benefits such as light weight, eco-friendliness, durability and cost-effectiveness. Cladding and facade systems provide thermal and acoustic insulation, benefiting from the inherent air-tightness of metal.

Innovations in prepainted steel might solve contemporary problems of big cities related to expensive removal of graffiti from buildings. Paint producers have put anti-graffiti programs on the market based on the paint itself, or a clear coat added on top of existing paint or building facades.

Supported with a special paint available today on the market, prepainted steel is an ideal answer to these challenges.

**Applications**



- Standard polyester
- Textured polyester
- Polyurethane
- Self-cleaning Polyester
- PVDF
- Polyester HD



## EXTERIOR APPLICATIONS - ROOF

Roofing, roof tiles, roof accessories (flashings, trims)

### Applications



Standard polyester  
Textured polyester  
Polyurethane  
PVDF  
Polyester HB

Top reasons why pre-painted is popular for roofing applications:

- Light weight, sustainable systems
- High quality standards induced by industrialised production
- Meet the highest building physical requirements imposed by new ecologically oriented regulations
- Rapid construction
- Competitive price
- High quality finish with a wide range of appearances

Pre-painted steel meets both requirements of structural and architectural aspects. It can be coated in many different types and colors of paint and other coatings, making it beautiful and durable at the same time. Modern metal roofing often maintains its functionality for over 45 years!

Architectural panels imitating the look of tiles or traditional seamed metal roofs made of pre-painted steel are widely used in the residential market. Various types of seaming methods, styles and colors and various esthetic options offer rich variability when it comes to pre-painted steel roofing.

## ROOF EXTERIOR ACCESSORIES

Rainwater systems, gutters, down pipes, RWS accessories

Pre-painted steel is widely used in roofing and cladding applications, but there are other various components essential for creating a building as a compact unit.

Top benefits of pre-painted roof accessories:

- High quality, uniform finish
- Sustainable material
- Excellent durability
- Cost effective
- Easy to manufacture

When pre-painted steel is used for roofing or cladding, the obvious choice is to continue with the same material. Pre-painted steel can be formed into an infinite number of shapes, so it is also an ideal choice for rainwater management with gutters and downpipes.

For gutters, a durable coating can be applied on the internal side. To further enhance the durability, you can also apply the same exterior coatings on both sides (4-coat system). Using the same coated product as the rest of the cladding or roofing not only makes buildings more attractive but also ensures the same level of durability and uniform weathering between components.

### Applications



Polyester HB



## OTHER EXTERIOR APPLICATIONS

Metal doors, garage doors, door framing, letter boxes, rolling shutters, fences, animal pens

### Applications



Standard polyester  
Textured polyester  
Textured polyurethane  
Polyester HB

For all exterior applications it is necessary to consider the actual environment and choose the product with appropriate corrosion resistance. According to EN10169, corrosion resistance can be specified on a scale of RC1 - RC5, where RC3, RC4 and RC5 would be suitable for an outdoor environment with a polluted or coastal aspect, RC5 being the highest durability category. In addition, the requirements for a given specific application have to be considered (hardness, scratch resistance, formability and flexibility). The specifics of the intended application should be discussed in advance.

Apart from the finishing components for a building, prepainted steel is often used in other components, such as doors and shutters. Both of these benefit from the durability, long-term performance, cost-effectiveness, dimensional stability and low weight of steel. High quality finish and a wide variety of appearances distinguish steel from other conventional materials.

Wherever a colored metal surface is required prepainted steel is the right component bringing many other additional benefits.

## INTERIOR APPLICATIONS

Ceiling panels, wall panels for partitions, suspended frames, interior sandwich panels for cold rooms or rooms with controlled ambience.  
Interior metal doors, interior door frames, interior metal windows, metal furniture.

Interior applications are an integral part of utilization of prepainted steel in construction. If the surrounding environment does not contain aggressive, corrosive or UV radiant elements with negative influence on the long-term service of prepainted steel, the coatings for interiors can be applied in thinner layers without anticorrosive additives. This makes building production cost effective. Obviously there are more expensive options of coatings with special functionality and appearance available.

If the products are intended for interior applications with low environmental aggressivity, the zinc coatings applied under the paints may be less thick, up to coating weight 100g/m<sup>2</sup> (both sided, meaning 50g/m<sup>2</sup> or 7 µm per side). Some of the color-coated products are suitable for interior applications with special performance requirements, e.g. lighting. These particular requirements should also be considered during advance consultation. For interior building elements, it is important to take into consideration also the risk of corrosive attack on the reverse side of the element.

### Applications



Standard polyester  
Textured polyester

# ENVIRONMENTS

For applications where the prepainted products are submitted to the influence of exterior atmospheres, the end user has to consider the environments for successful usage and correct product application for its long-term service. Here are some examples and descriptions of environments:



## Rural environment

Rural areas are an environment with low corrosion impact. Typical coatings of corrosion resistance category RC2 according to EN10169 provide adequate and effective functionality of buildings in this environment. There are also other coatings available with a higher corrosion resistance category which prolong the lifetime and durability of coated objects.



## Urban area

Urban areas are an environment with moderate corrosivity. Typical coatings for buildings in an urban area have corrosion resistance category RC3 according to EN10169 which provides adequate and effective functionality of buildings. Available are also coatings with a higher corrosion resistance category which prolong the lifetime and durability of coated objects.



## Industrial area

Industrial areas are an environment with industrial pollution that negatively influences the durability of the coating. The extent of coating deterioration is related to the content of SO<sub>2</sub> in the atmosphere. For buildings in an industrial environment it is necessary to specify a coating with a corrosion resistance category RC3, RC4 or RC5 according to EN10169 depending on SO<sub>2</sub> levels. Coatings with lower corrosion resistance are not recommended, as the functionality and appearance of coatings can be negatively affected and the lifetime of buildings shortened.



## Marine area

Coastal and at the same time industrial areas are considered as the most critical and severe environment for prepainted steel. This is an environment with combined industrial pollution together with humidity and salts which pose a threat to the durability of the coating. For the buildings in a coastal and industrial area, a coating with a corrosion resistance category RC5 according to EN10169 should be required and applied. Coatings with lower corrosion resistance are not recommended, as the lifetime, functionality and appearance of coatings can be negatively affected.



## Coastal area

Coastal areas are an environment with presence of humidity and salts from the sea that have negative impact on the durability of coatings and the lifetime of the buildings. For buildings to be located in coastal area it is necessary to specify coatings with a corrosion resistance category RC3, RC4 or RC5 according to EN10169, depending on the vicinity to the seashore and overall salinity of the air. Coatings with lower corrosion resistance are not recommended, as the functionality and appearance of coatings can be negatively affected and the lifetime of buildings shortened.

## Relationship between corrosion resistance categories, corrosivity categories and types of atmosphere - Typical environments in a moderate climate (see also EN ISO 12944-2)

corrosion resistance category	corrosivity category	Rural	Urban	Industrial	Marine	Pollution and humidity	Coastal area
RC 1	C1 - very low						
RC 2	C2 - low						
RC 3	C3 - medium			Low SO <sub>2</sub>	Low salinity		
RC 4	C4 - high			Moderate SO <sub>2</sub>	Moderate salinity		
RC 5	C5-I - very high			High SO <sub>2</sub>			
	C5-M - very high				High salinity		High salinity

## Description of environmental corrosivity (EN ISO 12944-2:2017)

Corrosivity class	Environmental corrosivity	Environment example - exterior (informative only)	Appropriate coating system
C1	Very low - All	-	All
C2	Low	Atmospheres with low levels of air pollutants, mainly rural environment.	All
C3	Moderate	Urban and industry atmospheres with moderate levels of air pollution by sulphur dioxide, coastal atmospheres with a low degree of salinity.	All
C4	High	Industrial atmospheres and coastal atmospheres with a moderate degree of salinity.	PUR 50; HDP 50; HBP 50
C5-I	Very high (Industrial)	Industrial environment with high humidity and aggressive atmospheres.	* After prior agreement
C5-M	Very high (Maritime)	Coastal and offshore environment with high levels of salinity.	* After prior agreement

### Information!

Applicable zone of hot dip galvanized sheets with organic coatings should be at least 3km inland from the coast.



# INTERIOR

According to the corrosivity of the atmosphere inside a building the interior atmospheres may be classified into different categories. The following corrosion conditions should be taken into account:

- 1. The aggressivity of the atmosphere** including (when applicable) the conditions for cleaning the interior walls of the building, e.g. frequency of cleaning, aggressivity of the cleaning solutions and use of disinfecting treatments.
- 2. The risk of condensation**, i.e. risk of occasional condensation, frequent condensation, permanent condensation.

## A1 Non-aggressive environment

Very low aggressivity to the coating specified according to atmosphere category A1, as defined in EN10169. The atmosphere has no chemical aggressivity and the periodicity of cleaning operations with neutral cleaning products is not more than once a month.

**Examples: offices, schools, residential (except kitchens and bathrooms), dry storage.**

## A2 Low-aggressive environment

Low aggressivity to the coating specified according to atmosphere category A2, as defined in EN10169. The atmosphere has no chemical aggressivity and the periodicity of cleaning operations with neutral cleaning products is not more than once a week.

**Examples: sports halls, cinemas, theatres, cold stores, supermarkets.**

## A3 Medium-aggressive environment

Moderate aggressivity to the coating specified according to atmosphere category A3, as defined in EN10169. The atmosphere has low chemical aggressivity and periodicity of cleaning operations with cleaning products of pH between 5 and 9 is not more than once a week.

**Examples: kitchens and bathrooms, food processing, industrial buildings with dry processes.**

## A4 Aggressive environment

High aggressivity to the coating specified according to atmosphere category A4, as defined in EN10169. The atmosphere has chemical aggressivity or risk of moulds and periodicity of cleaning operations with cleaning products of pH between 5 and 9 is not more than once per day.

**Examples: swimming pools, factory buildings with wet industrial processes (e.g. breweries, wine cellars).**

## A5 Very aggressive environment

Very high aggressivity to the coating specified according to atmosphere category A5, as defined in EN10169. The atmosphere has high chemical aggressivity or high risk of moulds and periodicity of cleaning operations with cleaning products of pH between 5 and 9 is minimum once per day. This must be agreed at the time of inquiry and order.

**Examples: Mushroom culture, livestock buildings, dairies, paper mills, seafood processing.**

### Information!

Standard material is produced for A1 and A2, non and low-aggressive ambience; higher upon request.

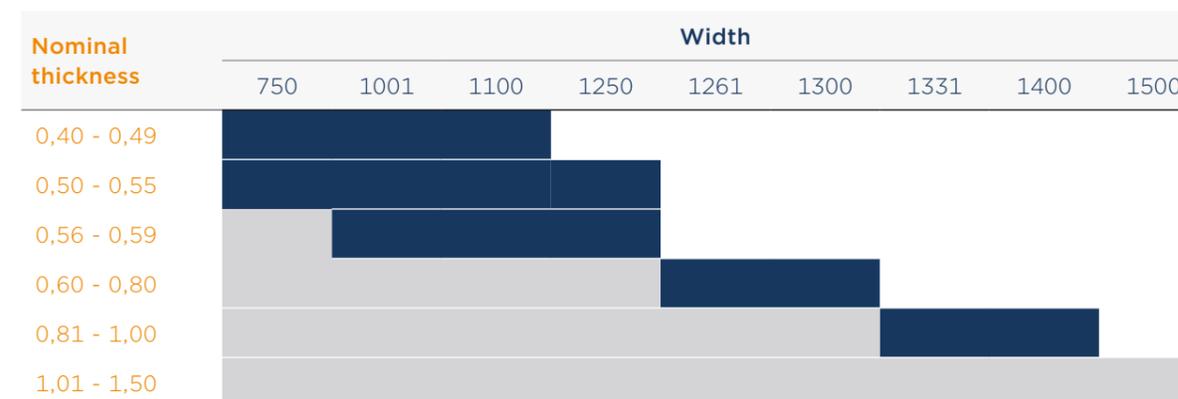
# SELECT BASE STEEL MATERIAL

Basic material for organic coating sheet production is hot dip galvanized steel with metallic coating or cold rolled steel without surface treatment. Base material is in compliance with standards mentioned below:

## Brand correspondence

	Utilization	Standard	Grade
<b>Galvanized substrate</b>	Drawing	EN 10346	DX51D+Z, DX52D+Z, DX53D+Z
	Structural	EN 10346	S220GD+Z, S250GD+Z, S280GD+Z, S320GD+Z
<b>Cold rolled substrate</b>	Drawing	EN 10130	DC01, DC03
	Structural	DIN 1623/09	S215G

## Dimensions of sheets and coils - Cold rolled substrate (mm)



## Dimensions of sheets and coils - Galvanized substrate (mm)



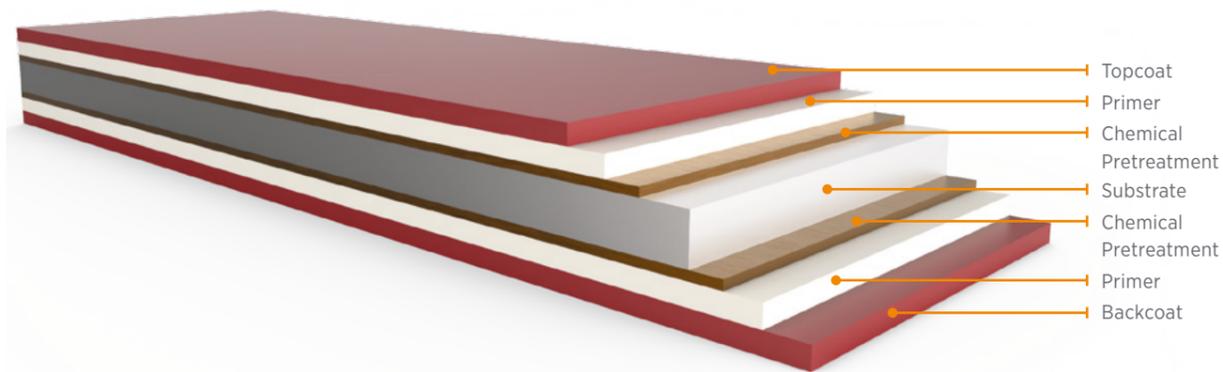
█ - drawing grades only    █ - drawing and structural grades    \* width 1301mm and more after agreement

Inner diameter: +/- 500 mm, 600 mm  
Outer diameter max.: 1 450 mm  
Coil weight: min. 2,0 t - max. 10,0 t  
Use protective inner spoon  
for ID 508 mm, no for ID 610 mm

Other grades corresponding to international (ISO) and national (ASTM, DIN, JIS, GOST and others) standards and other dimensions are subject to prior agreement. Minimum metal coating masses as specified for certain application need to be indicated at the time of inquiry and order. Weight of zinc coat is 100, 140, 150, 200, 225 or 275 g/m<sup>2</sup> applied on both sides, or 140/85 g/m<sup>2</sup> with higher coating on top side. Minimum zinc coating for one side is 50 g/m<sup>2</sup>. Specific coil weights are subject to prior agreement.

# COATING

Depending on the application, the color-coated steel flat products may be delivered with a specified organic coating in 2, 3 or 4-layer systems.



**Topcoat, finishing coat** - final (uppermost) coat of a multiple-coat system

**Primer, priming coat** - first coat of a multiple-coat system

**Chemical Pretreatment** - thin coating that provides chemical bond between metallic and organic coating, together with primer ensures good adhesion and corrosion resistance

**Backcoat, backing coat** - coating of any type on reverse side with no particular requirements on appearance, corrosion protection, formability, etc.

**Protective foil** - strippable plastic film applied to the coated surface in order to afford temporary protection against mechanical damage

## PRIMERS

The function of the primer is to provide good intercoat adhesion between substrate and topcoat. It also provides corrosion resistance to the overall coating system. There is a variety of primers available based on the application, environment, requested topcoat appearance, thickness and functionality of final coating system. The specific primer to be used is recommended by the specialist paint producers.

### Primers differ in:

- chemical composition: chrome-free
- resin system/base: polyester, epoxy
- applicable thickness: low build (4-15µm), high build (up to 25-30µm)
- physical properties: viscosity, density, spreading rate
- functionality: flexibility, elasticity, hardness, corrosion resistance
- appearance: smooth, spray effect, orange peel effect

## TOPCOATS

The topcoat is a coating applied to the primer and usually it is the uppermost layer of the coating system that is exposed to the surrounding environment. The function of the topcoat is to provide esthetic and decorative appearance (color tone, gloss, texture, special effects) and/or corrosion protection.

There is a variety of topcoats available based on the application, environment, requested appearance, thickness and functionality of final coating system. The coating material used for topcoats consists of organic polymers, pigments, additives and solvents which contribute to the final properties of the topcoat.

### Topcoats differ in:

- chemical composition: chrome-free
- resin system/base: polyester, PVdF, polyurethane
- physical properties: viscosity, density, spreading rate
- functionality: decorative colored coat, flexibility, corrosion protection, anti-pressure marking, anti-fretting
- appearance: smooth, textured (spray effect, orange peel effect, colored options and gloss ranges), spray effect, orange peel effect, colored options and gloss ranges

## BACKCOATS

The backing coat has not only decorative function, but it also provides protection on the inner side of panels from the less severe environments encountered within a building. In sandwich panel applications, it provides good adhesion of insulation foams.

Backcoats are available for use with or without primer. When applied as a single coat, the typical thickness is 8-12µm. With primer it is possible to achieve greater thickness and better corrosion resistance.

There is a variety of backcoats available based on the application, environment, requested appearance and functionality of final product.

### Backcoats differ in:

- chemical composition: chrome-free
- resin system/base: polyester, epoxy
- physical properties: viscosity, density, spreading rate
- functionality: flexibility, corrosion protection
- appearance: smooth, colored options

#### Paint Technology:

Color-coated sheets are made of quality metal substrates with high performing pre-treatment, primer, topcoat and backing coat. A carefully controlled manufacturing process delivers the best quality and performance.

# GLOSS

Gloss is an optical characteristic of a surface specified by its ability to reflect light. The gloss ranges according to EN10169 :

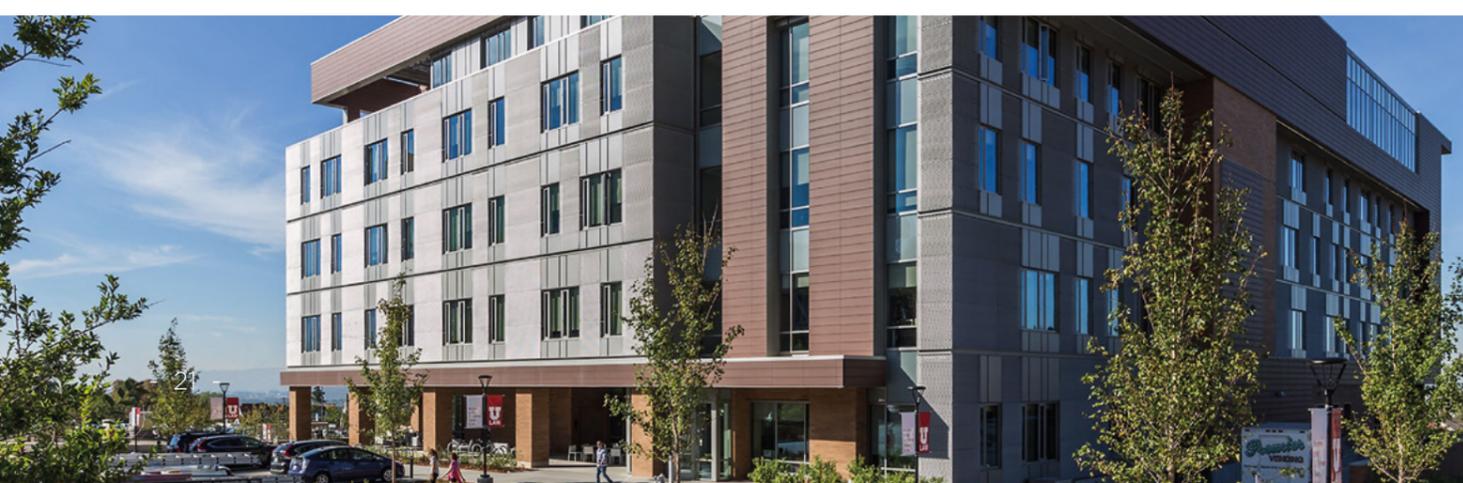


If gloss is not specified in the order, satin gloss is standardly applied.

# FLEXIBILITY

Depending on the end-use of color-coated flat products the performance properties and product flexibility will be agreed at the time of inquiry and order. Product flexibility is evaluated by applying the T-bend test to the exposed face. Flexibility of the product depends on the substrate thickness, the metallic protection and the organic coating. During the flexibility testing, there must be no visible cracks when the paint film is examined with a 10x magnification. The flexibility ranges in USSK production are:

Flexibility range	Minimum bending radius (T nominal thickness of the product)
High flexibility, for severe forming conditions	≤ 1,5T
Standard flexibility	max. 3,0 T for drawings grades max. 3,5 T for structural grades





## STANDARD POLYESTER

Applicable topcoat thickness 15-20 µm

Smooth surface with variations of color and gloss ranges. Provides optimum ratio between flexibility and hardness. It has very good resistance against weather impact and has minimum weathering and ageing rate. This coating may be applied on single or both sides. Category RUV3 and RC3.

High level of UV resistance: RUV 3  
 Coating thickness (topcoat + primer µm):  
 20+5, 15+5  
 Flexibility (max. T-bend): 3.0-3.5

Adhesion (cross-cut test): 0-1 Impact  
 test (J): ≥ 10  
 MEK test (DR): >100  
 Scratch resistance (kg): ≥ 1.0

### Typical characteristics:

- RUV3** UV resistance
- RC3** Corrosion resistance
- Urban area** Urban area
- Industrial area** Industrial area
- 20-40** Gloss
- B-F** Hardness
- Colors** Colors
- A2** Interior environment

### Areas of application:

- Wall**
- Roof**
- Other**
- Interior**

## TEXTURED POLYESTER

Applicable topcoat thickness 20-25 µm

Low gloss wrinkled surface of textured polyester with fine sparkling reflections gives unique "non-metallic appearance", satin and flashy look. Due to its very coarse texture gloss readings will be around 1-6. Textured polyester provides an optimum ratio between flexibility and hardness and at the same time has excellent weather resistance with minimal weathering and ageing rate. It is intended for use on roofings. It is possible to provide 15µm primer.

High level of UV resistance: RUV 3  
 Medium level of corrosion resistance: RC 3  
 Coating thickness (topcoat + primer µm):  
 20+5, 20+15, 25+25  
 Flexibility (max. T-bend): 2.5-3

Adhesion (cross-cut test): 0  
 Impact test (J): ≥ 20  
 MEK test (DR): >100  
 Scratch resistance (kg): ≥ 1.5

### Typical characteristics:

- RUV3** UV resistance
- RC3** Corrosion resistance
- Urban area** Urban area
- Industrial area** Industrial area
- 0-10** Gloss
- B-HB** Hardness
- Colors** Colors
- A2** Interior environment

### Areas of application:

- Wall**
- Roof**
- Other**
- Interior**

### Standard

- 1002, 1015, 3005, 3009, 3011, 5005, 5010, 6002, 6005
- 6009, 6011, 6020, 7016, 7024, 7035, 8004, 8012, 8017
- 8019, 9002, 9003, 9005, 9010, 9016

### Special

- 1003, 3000, 6029

### Metallic

- 9006, 9007

### Standard

- 3005, 3009, 3011, 6005, 6009, 6020, 7016, 7024
- 8004, 8017, 8019, 9005



## HIGH BUILD POLYESTER

Applicable topcoat thickness 20-25 µm

High build polyester has uniform and very fine grain structure and can be produced with gloss levels of 35-45. It provides an optimum ratio between flexibility and hardness and good resistance to weather influence. Suitable for low bend radius. Good abrasion resistance. Typical end-uses are roofings, waterpipes. It is usually coated with 25µm high build primer. Category RUV4 and RC4.

High level of UV resistance: RUV 4  
 High level of corrosion resistance: RC 4  
 Coating thickness (topcoat + primer µm):  
 20+15, 25+10, 25+25  
 Flexibility (max. T-bend): 1.5

Adhesion (cross-cut test): 0  
 Impact test (J): ≥ 20  
 MEK test (DR): >100  
 Scratch resistance (kg): ≥ 2.0

### Typical characteristics:

RUV4 UV resistance	RC4 Corrosion resistance	Urban area	Industrial area	Marine area
35-45 Gloss	HB Hardness	Colors	A2 Interior environment	

### Areas of application:

Roof	Drainage	Other
------	----------	-------

## HIGH DURABLE POLYESTER

Applicable topcoat thickness 20-25 µm

Low gloss hardcoat with very fine texture. It is filled with ceramic beads making the surface very hard. High durable polyester is used for production of all types of construction material. Gloss levels are 0-10. It provides an optimum ratio between flexibility and maximum hardness and it has excellent weather resistance with minimum rate of weathering and ageing. High durable polyester is very suitable for applications experiencing frequent physical contact with the coating. Is usually applied with 15-25µm primer. Category RUV3-4 and RC3-4.

High level of UV resistance: RUV 4  
 Medium level of corrosion resistance: RC 4  
 Coating thickness (topcoat + primer µm):  
 20+15, 25+15, 25+25  
 Flexibility (max. T-bend): 1.5

Adhesion (cross-cut test): 0  
 Impact test (J): ≥ 20  
 MEK test (DR): >100  
 Scratch resistance (kg): ≥ 2.5

### Typical characteristics:

RUV4 UV resistance	RC4 Corrosion resistance	Industrial area	Marine area
0-10 Gloss	HB Hardness	Colors	A2 Interior environment

### Areas of application:

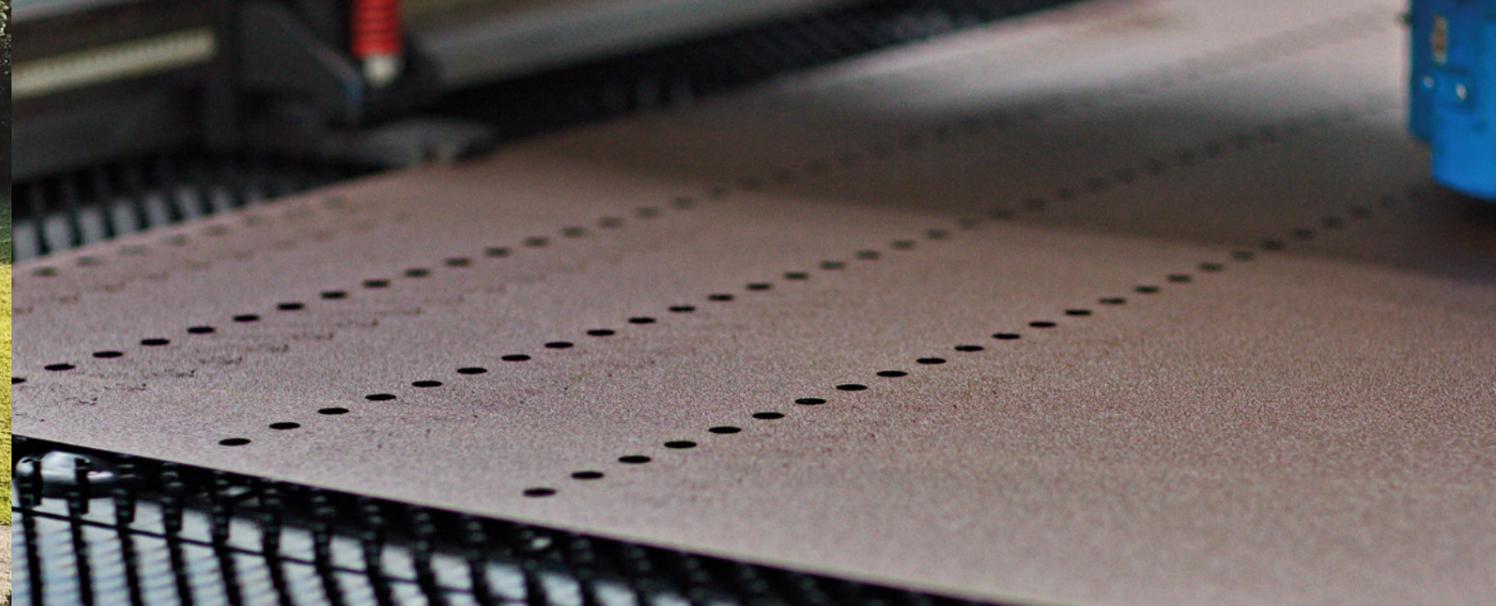
Wall	Roof
------	------

### Standard

3005 3009 3011 6020 7016 7024 8004 8017 9005 9015

### Standard

6020 7024 8017 9005 3000



## POLYURETHANE

Applicable topcoat thickness 25 µm

Polyurethanes are available in various color and gloss ranges. They provide an optimum ratio between flexibility and hardness and have excellent resistance to weathering and UV radiation. Polyurethanes are harder and have better flexibility and better UV resistance than standard polyesters. They are usually applied with 25µm primer Category RUV4 and RC4.

High level of UV resistance: RUV 4  
 High level of corrosion resistance: RC 4  
 Coating thickness (topcoat + primer µm):  
 25+15, 25+25  
 Flexibility (max. T-bend): 1.5

Adhesion (cross-cut test): 0  
 Impact test (J): ≥ 20  
 MEK test (DR): >100  
 Scratch resistance (kg): ≥ 2.5

### Typical characteristics:

RUV4 UV resistance	RC4 Corrosion resistance	Urban area	Industrial area	Marine area
30-50 Gloss	HB Hardness	Colors	A2 Interior environment	

### Areas of application:



## TEXTURED POLYURETHANE

Applicable topcoat thickness 25 µm

High Build Polyurethane Polyamide for buildings based on a cycloaliphatic resin provides very good performance in terms of flexibility, wear and UV resistance. It has better resistance to scratching than standard polyesters and also has very a good ratio between flexibility and hardness. Developed for high build systems. It is usually applied with 25µm primer. It has excellent corrosion and UV radiation resistance, and belongs in categories RUV4 and RC4.

High level of UV resistance: RUV 4  
 Medium level of corrosion resistance: RC 4  
 Coating thickness (topcoat + primer µm):  
 25+25  
 Flexibility (max. T-bend): 1.5

Adhesion (cross-cut test): 0  
 Impact test (J): ≥ 20  
 MEK test (DR): >100  
 Scratch resistance (kg): ≥ 2.5

### Typical characteristics:

RUV4 UV resistance	RC4 Corrosion resistance	Urban area	Industrial area	Marine area
0-10 Gloss	HB Hardness	Colors	A2 Interior environment	

### Areas of application:



### Standard



### Metallic



### Standard





## PVDF

Applicable topcoat thickness 23 µm

PVDF 70/30 ratio with acrylic binder. Smooth surface with medium gloss range 25-35. It provides excellent weather resistance and has an excellent ratio between flexibility and hardness. PVDF has restrictions in the color portfolio due to the UV properties of the polymer. Some colors may be recommended with a UV barrier layer or clear coat on top of the pigmented coating. All PVDFs belong in the RUV4 and RC4 category.

High level of UV resistance: RUV 4  
 High level of corrosion resistance: RC 4  
 Coating thickness (topcoat + primer µm): 23+5  
 Flexibility (max. T-bend): 2.0

Adhesion (cross-cut test): 0-1  
 Impact test (J): >20  
 MEK test (DR): >100  
 Scratch resistance (kg): ≥ 2.5

### Typical characteristics:

RUV4 UV resistance	RC4 Corrosion resistance	Industrial area	Marine area
25-35 Gloss	HB Hardness	Colors	A2 Interior environment

### Areas of application:



### Standard



### Metallic



# GUARANTEE

For hot dip galvanized sheets with organic coatings produced by U. S. Steel Košice, s.r.o.

U. S. Steel Košice, s. r. o. (hereinafter USSK) guarantees that during the guarantee period the hot dip galvanized sheets with organic coatings produced by USSK will not peel or otherwise fragment, display abnormal color change or suffer perforation of the metal sheet leading to leaks. This guarantee period is counted from the date of delivery to the Buyer. Guarantee is valid for organic coatings applied with minimum nominal thickness according to Table 1.

Table 1. - Guarantee period for hot dip galvanized sheets with organic coatings

SYMBOL	Coating type	Nominal thickness on top side [µm]	Guarantee for metal sheet perforation			Guarantee for colorfastness and paint peeling		
			C1 - C2	C3	C4	C1 - C2	C3	C4
PUR	Polyurethane	50*	40	30	20	20	17	15
		40	30	20	-	20	15	-
HDP	Textured Polyurethane	50*	40	30	20	20	17	15
		35	20	17	-	15	12	-
HBP	High Durable Polyester	25	12	10	-	12	10	-
		50*	45	30	20	20	17	15
HBP	High Build Polyester	40	30	20	-	20	15	-
		35	20	17	-	15	12	-
SP	Standard Textured Polyester	35	15	15	-	12	10	-
		25	10	10	-	10	10	-
PVDF	Standard Polyester	25	10	10	-	10	10	-
		28	15	12	-	12	12	-

\*Applies for zinc coating 275g/m2 only.



### Compensation rules:

- Claim submitted within first 5 years of service: coefficient = 1.00
- Claim submitted beyond 5 years of service: coefficient = remaining years of guarantee / (guaranteed period in years - 5 years)

up TO  
**45**  
 YEARS OF  
 GUARANTEE



**BUILDING VALUE TOGETHER**

U. S. STEEL KOŠICE S.R.O., VSTUPNÝ AREÁL U. S. STEEL, 044 54 KOŠICE, SLOVAKIA  
USSKE.SK