

AIR.GO ASSISTANT LIGHT

FIRE SAFETY REPORT

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MARCUS PEDERSEN

AIRPORT INNOVATION

VERSION CONTROL

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1.0	01/10/24	Initial Creation	Philip Simonsen & Laura Louise Frøjk

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INTRODUCTION

The Air.Go Assistant Light is a mobile workstation designed for use in airports. The product is built according to industry standards and consists of a steel frame clad in aluminum, containing various electrical/electronic components. Inside the Air.Go Assistant Light, actuators are installed, allowing for height adjustment of the workspace. Above the workspace, a monitor (HMI) and a light source in the form of an LED strip are mounted. Additionally, another light source in the form of an LED is mounted in the base.

The product is mobile and equipped with wheels and handles. Steel drawers are installed in the housing. The exterior of the product is made entirely of non-combustible materials, including aluminum and steel plates, while the tabletop is made of fire-resistant MDF. The Air.Go Assistant Light is shown in Figure 1 below.



Fig. 1.

FIRE HAZARD

The Air.Go Assistant Light is made of non-combustible materials, with the outer cladding plates made of powder-coated aluminum, while the inner frame and base are made of powder-coated steel. All openings and cutouts are smaller than 4 mm, except for the slots for printing luggage tags and boarding passes, as well as the ventilation openings with a diameter of 5 mm in the bottom plate.

Fire Load/Smoke Behavior

The Air.Go Assistant Light is constructed using high-quality industrial components and materials. Further details on the components can be found later in this document. Most of the cables used are halogen-free. The fire hazard posed by the external surface of the device is described as follows:

- **Powder-coated frame and cladding:** These components are considered non-combustible, as powder-coated steel and aluminum are regarded as non-combustible materials.
- **Wheels:** Made of polyamide, which is considered fire-resistant due to its high melting point.
- **Tabletop:** Made of fire-resistant MDF, coated with fire-resistant HPL (High Pressure Laminate), making it fire-resistant.
- **Monitor:** The exterior is made of polycarbonate, known for its low combustibility and flame-retardant properties.
- **LED Strip (Workspace):** The outer casing is made of polycarbonate, known for its low combustibility and flame-retardant properties.

COMPONENTS

This section provides detailed descriptions of the individual parts of the Air.Go Assistant Light.

UPPER FRAME AND CLADDING

The upper frame is highlighted in blue in Figures 2 and 3.

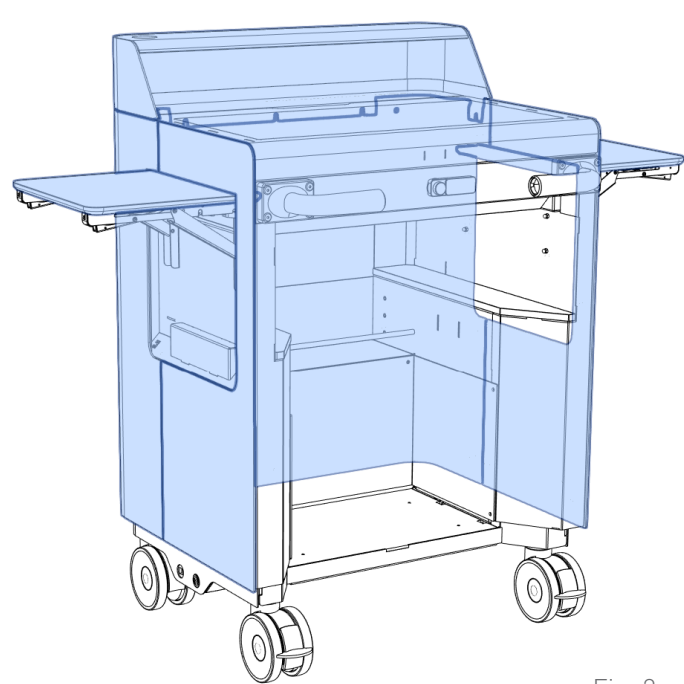


Fig. 2.

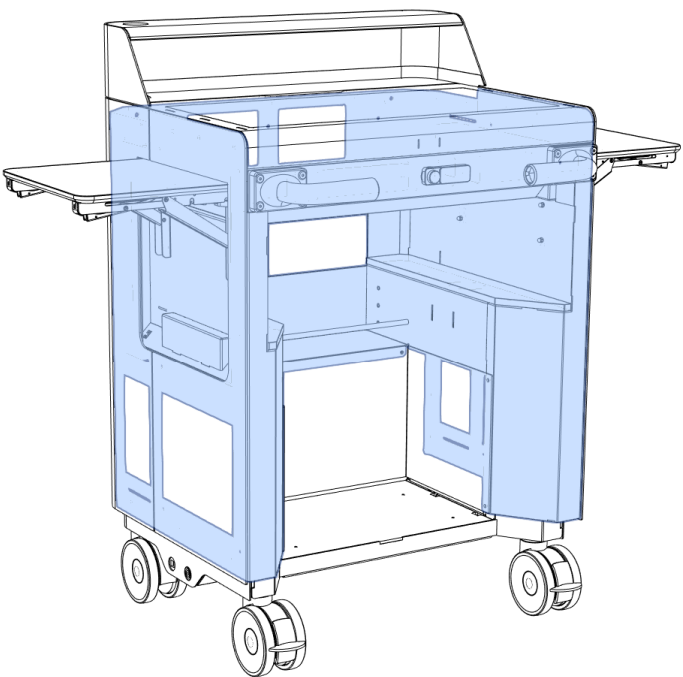


Fig. 3.

Notes

The notes regarding the upper frame with cladding are outlined in the table below.

Notes on the Upper Frame with Cladding	
Material	Aluminum (powder-coated) (Fig. 2) Steel (powder-coated) (Fig. 3)
Flammeability	100 % non-flammable

LOWER FRAME AND CLADDING

The lower frame and cladding are highlighted in blue in Figures 4 and 5.

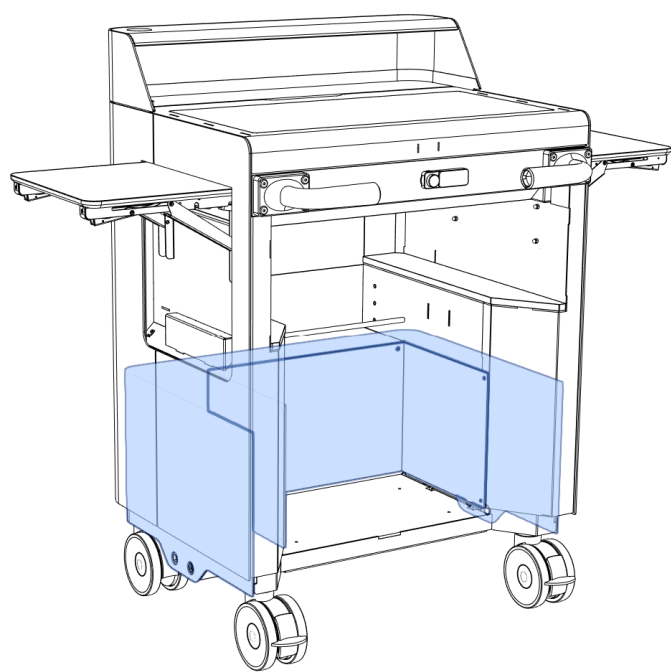


Fig. 4.

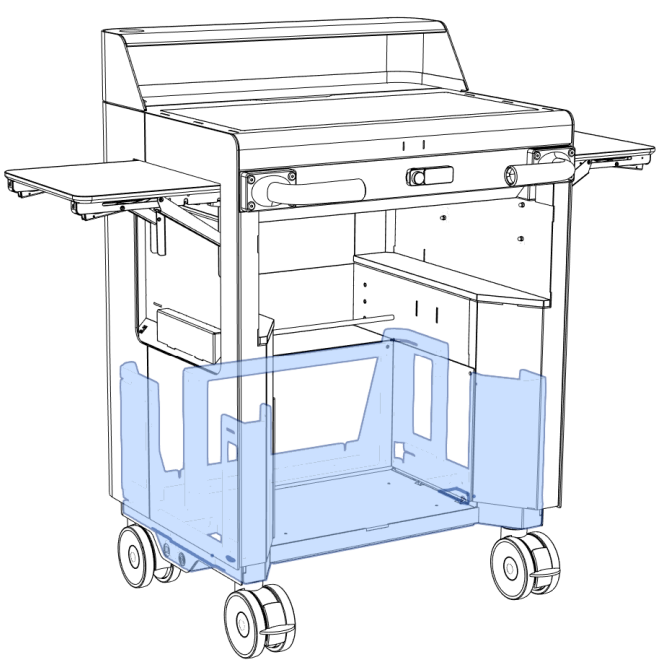


Fig. 5.

Notes

The notes regarding the lower frame with cladding are outlined in the table below.

Notes on the Lower Frame with Cladding	
Material	Stainless Steel (Fig. 4) Steel (powder-coated)) (Fig. 5)
Flammeability	100 % non-flammable

TABLETOP

The tabletop is highlighted in blue in Figure 6.



Fig. 6.

Notes

The notes regarding the Tabletop are outlined in the table below.

Notes on the Tabletop	
Material	MDF – 12 mm Fire resistance rating: – B-s2,d0 – Norm EN 13501-1 (Page 20-22)
	HPL (High-Pressure Laminate) – 0,8 mm Fire resistance rating – B-s1,d0 – Norm EN 13501-1 (Page 20-22)
Weight	MDF: 2,8 kg
	HPL: 0,3 kg
Flammeability	Fire-Resistant

TECHNICAL SPECIFICATIONS

Components

This section provides an overview of the components of the Air.Go Assistant Light.

ACTUATOR AND CONTROL BOX

The working area features an electric height adjustment function, enabling customization to the user's needs.

The position of the actuator and control box is highlighted in blue in Figure 7. The components are detailed as follows:

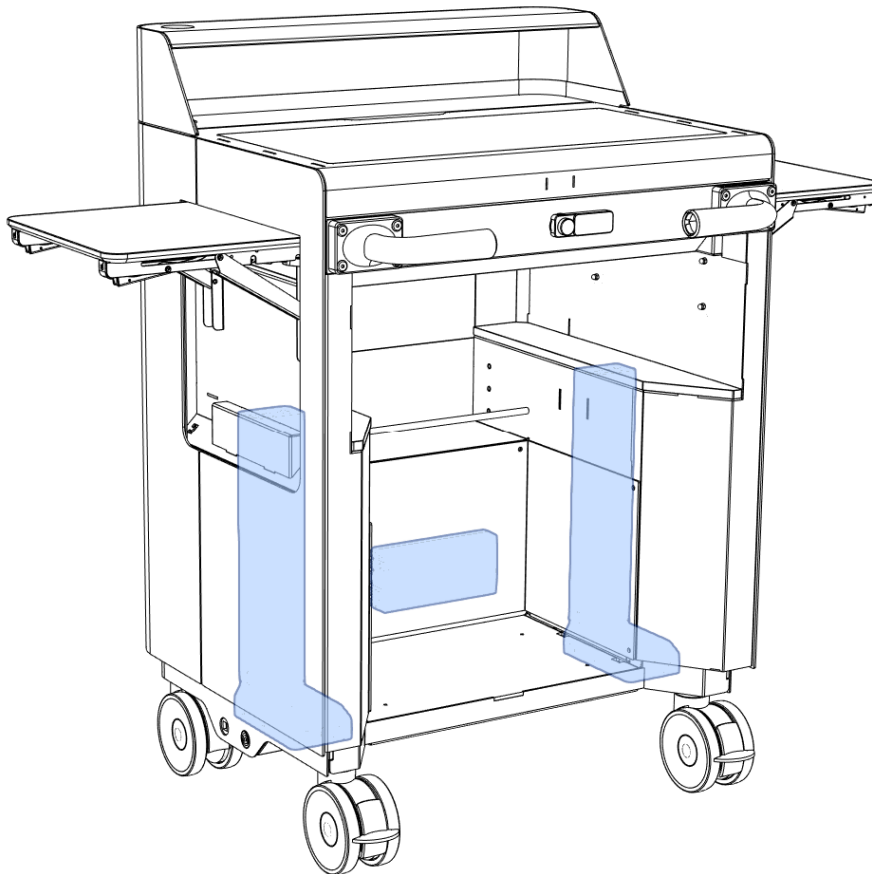


Fig. 7.

Actuator Typ DL5

Black DL5001BN0300445

Control Box Typ CBD6S

CBD6SP00020A-009



CONTROL PANEL

The position of the control panel is highlighted in blue in the image below (Figure 8). The individual components are shown below.

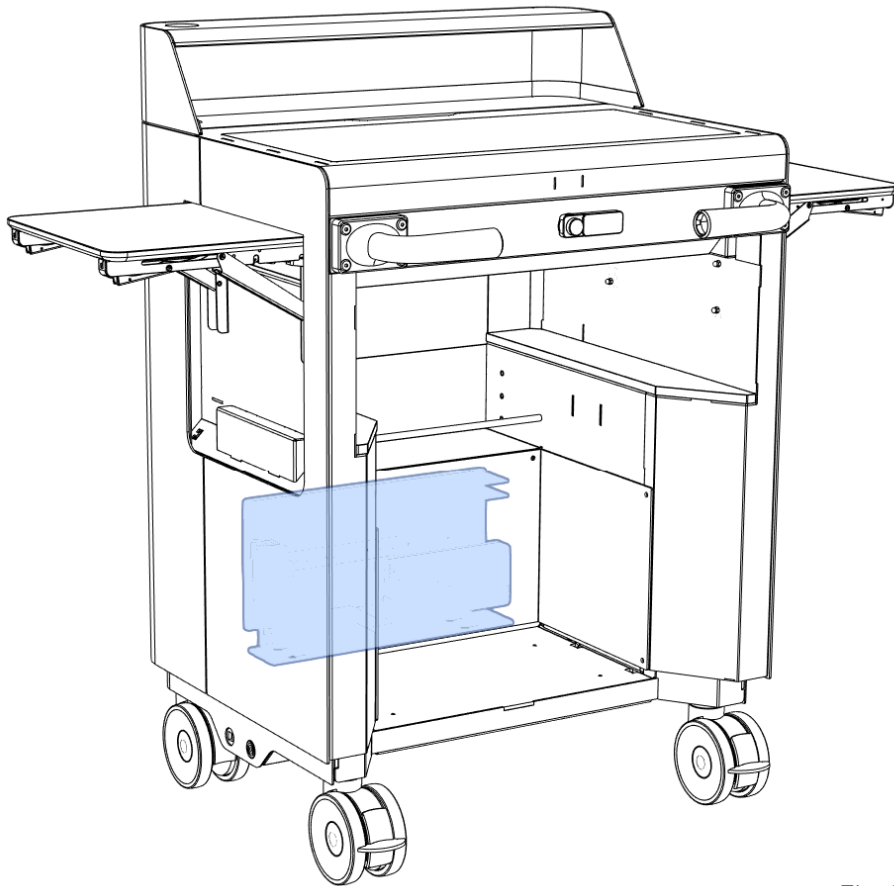


Fig. 8.

acti9 iC60H MHB 1 POLE 10A
A9F06110



Kombiausleger acti9 iCV49N 1P+N 10A C SI 30mA
A9DF3610



LED WORKSPACE LIGHTING

The position of the LED workspace lighting is highlighted in blue in Figure 9. The components are detailed as follows:



Fig. 9.

LED STRIP RX HD IP20 24V 4000K 5M
5457002009



ART PROFIL LOW 2M WHITE
5445625223



ART COVER OPAL 2M
5445625197



ART END CAP LOW WHITE 2STK
5445625126



ART BRACKETS HIGH & LOW WHITE 2STK
5445251969



LOCK

The position of the lock is highlighted in blue in Figure 10. The individual components are detailed below.



Fig. 10.

Südhaus Lock
3003601099



WHEELS

The position of the wheels is highlighted in blue in Figure 11. The wheel components consist of a polyamide fork and rim, with a polyurethane tread. Details include:

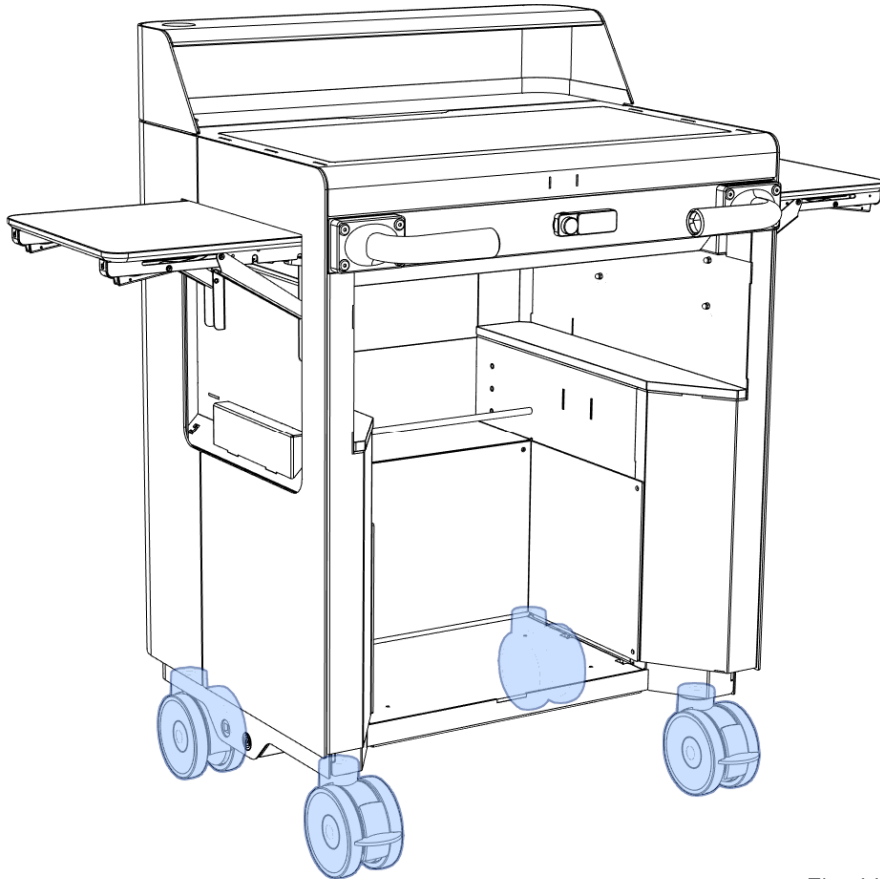


Fig. 11.

Wheel with Brakes

00774406 5947XSP125P30
13,0 LINEA Braking Wheels, RAL9

Rad without Brakes

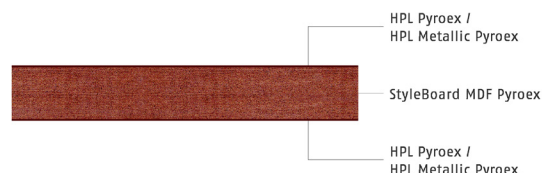
00774405 5940XSP125P30
13,0 LINEA Turning Wheel



Technical details

Duropal-Element MDF Pyroex

Flame resistant flat bonded element of a medium-density fibreboard core (MDF) with uniform structure and flame retardant properties, faced on both sides with Duropal-HPL Pyroex or Duropal-HPL Metallic Pyroex.

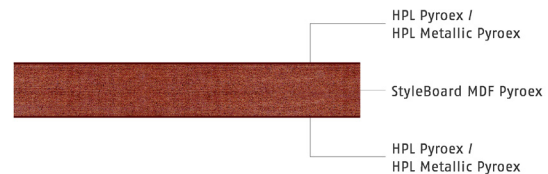


Specification		Unit	Standard
Nominal thickness	17.6 20.6	mm	
Length	2,800	mm	
Width	2,070	mm	
Thickness tolerance	± 0.5	mm	ISO 13894-1
Length tolerance	± 5	mm	ISO 13894-1
Length tolerance (pre-cut panels)	± 2.5	mm	ISO 13894-1
Width tolerance	± 5	mm	ISO 13894-1
Width tolerance (pre-cut panels)	± 2.5	mm	ISO 13894-1
Flatness (length)	≤ 2 ¹⁾	mm/m	ISO 13894-1
Flatness (width)	≤ 2 ¹⁾	mm/m	ISO 13894-1
Edge defects	≤ 10	mm	EN 14323
Edge defects (pre-cut panels)	≤ 3	mm	EN 14323
Surface defects	≤ 1 ²⁾ ≤ 10 ³⁾	mm ² /m ² mm/m ²	EN 438-2
Gross density	780 ⁴⁾	kg/m ³	EN 323
Density range	± 10 ⁴⁾	%	EN 323
Bending strength	≥ 20 ⁴⁾	N/mm ²	EN 310
Modulus of elasticity (bending stiffness)	≥ 2,200 ⁴⁾	N/mm ²	EN 310
Tensile strength	≥ 0.55 ⁴⁾	N/mm ²	EN 319
Resistance to fixings (face)	≥ 1,000	N	ISO 13894-1
Resistance to fixings (edge)	≥ 600	N	ISO 13894-1
Bonding strength	≥ 0.7	MPa	ISO 13894-1
Glue-line quality	4	rating	ISO 13894-1
Resistance to impact (small diameter ball)	≥ 15	N	ISO 13894-1
Resistance to impact (large diameter ball)	≥ 600	mm	ISO 13894-1
Initial wear point (IP)	≥ 50 ⁵⁾ ≥ 150 ⁶⁾	U	EN 438-2
Wear resistance (WR)	≥ 150 ⁵⁾ ≥ 350 ⁶⁾	U	EN 438-2

Technical details

Duropol-Element MDF Pyroex

Flame resistant flat bonded element of a medium-density fibreboard core (MDF) with uniform structure and flame retardant properties, faced on both sides with Duropol-HPL Pyroex or Duropol-HPL Metallic Pyroex.



Specification			Unit	Standard
Nominal thickness	17.6	20.6	mm	
Length	2,800	2,800	mm	
Width	2,070	2,070	mm	
Resistance to surface wear	min. 2 ⁵⁾ min. 3 ⁶⁾		class	EN 438-2
Resistance to scratching	min. 2 ^{5,7)} min. 3 ⁶⁾		rating	EN 438-2
Stain resistance (groups 1 & 2)	min. 5 ^{8,7)}		rating	EN 438-2
Stain resistance (group 3)	min. 4 ^{8,7)}		rating	EN 438-2
Resistance to cigarette burns	min. 3 ⁸⁾		rating	EN 438-2
Resistance to dry heat / 180 °C (smooth finishes)	min. 3 ⁸⁾		rating	EN 438-2
Resistance to dry heat / 180 °C (textured finishes)	min. 4 ⁸⁾		rating	EN 438-2
Resistance to wet heat / 100 °C (smooth finishes)	min. 3 ⁸⁾		rating	EN 12721
Resistance to wet heat / 100 °C (textured finishes)	min. 4 ⁸⁾		rating	EN 12721
Resistance to water vapour (smooth finishes)	min. 3 ^{8,7)}		rating	EN 438-2
Resistance to water vapour (textured finishes)	min. 3 ⁷⁾ min. 4 ⁸⁾		rating	EN 438-2
Light fastness (xenon arc light)	min. 4		grey scale rating	EN 438-2
Thermal conductivity	≤ 0.13		W/(mK)	EN 12524
Calorific value	env. 18		MJ/kg	ISO 1716
Reaction to fire	fire-retardant			
Reaction to fire (Euroclass)	B-s2,d0			EN 13501-1
Field of application	1 - Dry area ⁴⁾			DIN 1052
Formaldehyde emission class	E1			EN 120

¹⁾ If symmetrical construction

²⁾ Dirt, spots and similar surface defects

³⁾ Fibres, hairs and scratches

⁴⁾ Core material

⁵⁾ Classification VGF

⁶⁾ Classification HGF

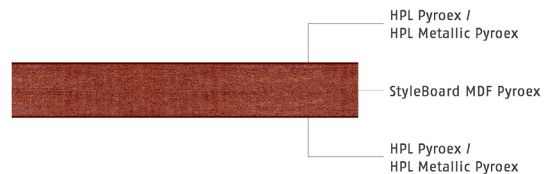
⁷⁾ Duropol-HPL Metallic Pyroex

⁸⁾ Duropol-HPL Pyroex

Technical details

Duropol-Element MDF Pyroex

Flame resistant flat bonded element of a medium-density fibreboard core (MDF) with uniform structure and flame retardant properties, faced on both sides with Duropol-HPL Pyroex or Duropol-HPL Metallic Pyroex.



Additional Information

Product safety	- This product is following the REACH regulation EG 1907/2006 an article. Following Article 7 it needs not to be registered. - The surface is physiologically safe, and approved for direct contact with food.
Special	- Holohedral metallic designs can show because of light refraction certain optical area effects which also can be directional and slightly higher differences in the colour connection in comparison to classic plain colours. - Please consider that metallic designs react more sensitive to scratching and abrasion as well as to humidity as normal printed designs. The sensitivity of the surface increases with growing metallic content. The surface values of the relevant product standard are therefore only limited fulfilled. - Duropol-HPL / Duropol HPL Pyroex / Duropol-HPL IMO: Classification HGP / HGF is achieved with the surface textures HS, MS, FG, VV, MP, TC, RU, RT, NH, AH, MO, CT, LI. Requirements of classification VGP / VGF are met by all surface textures. Please refer to our sales documentation, to check which textures are available for this product.
Special	It is recommended to order overlay for horizontal, heavy used surfaces in combination with metallic designs. Slight visual difference to the surface is possible without the overlay.

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