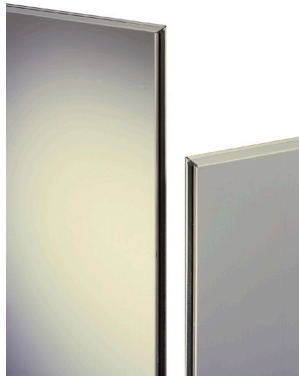


Partition ET40

Metal coating and aluminium honeycomb core

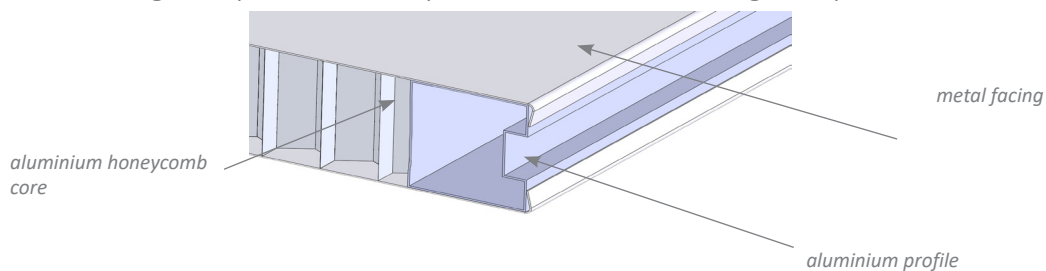


The ET40 partition is designed for the realisation of peripheral walls or partitions for premises in high tech activities : electronic industry, precision mechanical engineering... It is highly adaptable to the dimensions and requirements of any site thanks to its optimum flexibility.



Conception

The ET40 partition consists of modular panels of thickness 40 mm 1.57". The ET40 panels are made of aluminium honeycomb core bonded between 2 metal facings. Components used for panels do not release neither gas nor particles.



Core

Aluminium honeycomb, link \varnothing 19 mm 0.7", foil thickness 50 μ m
Alloy 3003 (EN 573 standard)
Rustproof treatment
Density : 20 kg/m³ 1.25 lb/ft³
Fire class : non combustible
Resistance to compression : 0,4 - 0,6 MPa 58 - 87 PSI

Profiles

Aluminium profile on 4 faces
Rustproof treatment

Glue : Polyurethane bicomponent

Facings

Support	Coatings according to NF EN 10169	Thicknesses (in mm)		Class according to XP P 34-301
Steel sheet S280 GD, hot-dip galvanised Z225 (225g/m ² of zinc on the 2 faces) or similar	coated with polyester 25 μ m lacquer	0,5* 0.02"	0,6 0.02"	IIIa
Pre-lacquered aluminium sheet non keep in stock	coated with polyester 25 μ m lacquer	0,7 0.03"		Not applicable

Surface resistivity (ASTM D257): $R_s = 10^{11} \Omega$ (standard lacquer)

* standard facing

Standard colour : iceberg white (close to RAL 9010)

NB: on request, the two facings can be of different materials on inside and outside faces (aspect, colour and/or thickness)

Partition ET40

Metal coating and aluminium honeycomb core

Technical characteristics

Panel

Thickness		40 mm 1.57"	
Dimensions	Width	0,60 m 1.97'	1,20 m 3.94'
	Maxi. length	4 m 13.12'	
Weight		10,3 kg/m ² 2.1 lb/ft ² (2 faces 0,5 mm steel) 6,5 kg/m ² 1.3 lb/ft ² (2 faces 0,7 mm aluminium)	
Resistance to compression		270 kPa 39 PSI	

Maximum acceptable loads in partition

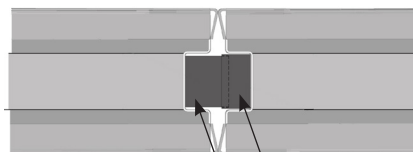
Bending resistance, panels on 2 supports

Partition height (m)	≤ 4,00 13.12'
q (daN/m ²)	30 6.27 lb/ft ²

Installation

Assembly

The assembly between panels is made with a flexible compressed joint which enables the future dismantling panel by panel. Panels are jointed (dry seal).



Flexible adhesive joints



Tightness

The tightness between the panels is guaranteed by compressible PVC joints, which make it possible a quick assembling and a dismantling without damage. A MS polymeric mastic joint may be used to guarantee an optimum tightness. The panels are removable and interchangeable one by one, even in the middle of a partition.

Reports and approvals

Fire reaction :

Euroclass = A2-s1,d0

FM Global approval :

FM Approvals (Standard 4880) = Class 1

Consult the data n°0112 «Reports and approvals».

Double flush glazing thickness 40 mm 1.57"

GSP-0406-E/B

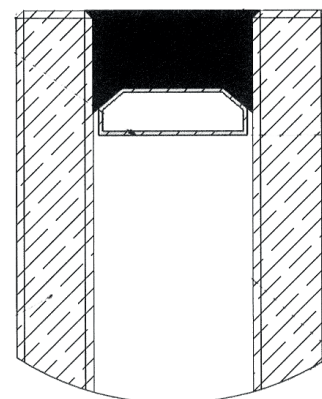
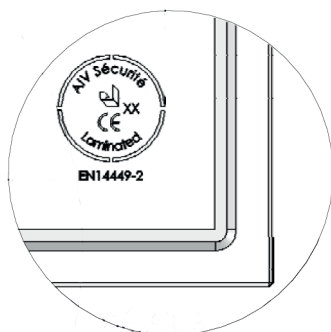


Glazings are monobloc elements of thickness 40 mm 1.57". They consist in two laminated glasses mounted flush on a black aluminium profile with tightness on the periphery.
They are mounted in factory in the middle of panels.

Characteristics

This glazings are bi-glasses made with a black (RAL 9005) aluminium profile on witch are bonded 2 laminated glasses 44.2 (complies with standard NF EN14449 class P2) with 2 peripheral inserts (containing molecular riddle or dryer).
A silicon joint is extruded between the glasses and the aluminium profile in order to ensure the tightness.

CE Marking



Standards dimensions

With x Height (mm)
 800 x 800 2.6' x 2.6'
 800 x 1000 2.6' x 3.3'
 1000 x 1000 3.3' x 3.3'

Installation

The double flush glazings are incorporated into ET40 panels at the factory.

Double flush door

Flush door frame for panels thickness 40 mm 1.57", door leaf 40 mm 1.57"

GSP-0407-E/B



These doors are integrated into ET40 partitions.

They are designed for passage of staff, material or machines in high technology sectors : electronic industry, advanced sector, precision engineering...

Technical characteristics

Leaf

- 1 or 2 leaves thickness 40 mm 1.57"
- sandwich structure

Leaves consist of aluminium honeycomb core bonded between 2 steel or aluminium facings, coated with a standard or conductive lacquer, and a peripheral frame integrated in factory.

- polyurethane glue mono component

Door frame

The monobloc aluminium door frame is welded and painted (backed polyester epoxy painting).

The connection with the panel is made progressively with a key. The door frame and the leaf are perfectly flush with the adjacent panels.

For usual dimension passages, its shape "inverse U" allows an easy mounting. For larger passages, it requires to be linked to the structural elements in the upper part ("H" door frame).

Tightness

- sealing joint on 3 sides

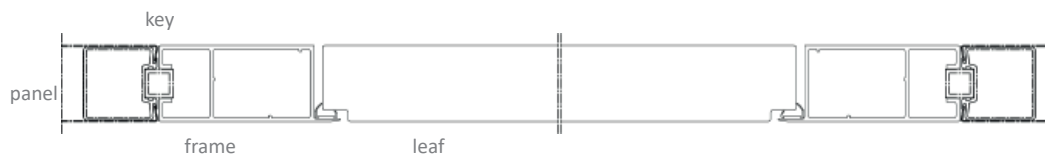
	standard equipment	options	refer to data N°	
door with 1 or 2 leaves	white lacquered adjustable aluminium hinges	black lacquered adjustable aluminium hinges	GSP-0902-E/B	
	white PVC handle with european profile lock (1 locking point)	coloured PVC handle with european profile lock (1 locking point)	GSP-0901-E/B	
		stainless steel handle with european profile lock (1 locking point)		
		white PVC pull handle (without lock) with push plate		
	stamped stainless steel lock box	stainless steel pull handle (without lock) with push plate		
	doors with 2 leaves	floor gasket sweeper gasket push plate foot operated door stop wall mounting door closer		GSP-0906-E/B
			double flush vision panel 640 x 350 mm 2.1' x 1.15', 800 x 500 mm 2.6' x 1.6', 1000 x 500 mm 3.3' x 1.6'	GSP-0921-E/B
			grey PVC kick plate, height 850 mm 2.8' on 1 or 2 faces	GSP-0911-E/B
			stainless steel sheet kick plate, height 850 mm 2.8' on 1 or 2 faces	GSP-0912-E/B
			wall mounting electromagnetic lock	GSP-0914-E/B
			airlock management	GSP-0915-E/B
			top and bottom lever bolt on semi fixed leaf	GSP-0907-E/B
closing selector			GSP-0904-E/B	

Double flush door

Flush door frame for panels thickness 40 mm 1.57", door leaf 40 mm 1.57"

Dimensions

detail of the junction between door frame and panel



(mm)	designation Ht x Larg.	clear opening Ht x Larg.	door frame Ht x Larg.	designation Ht x Larg.	clear opening Ht x Larg.	door frame Ht x Larg.	designation Ht x Larg.	clear opening Ht x Larg.	door frame Ht x Larg.
1 leaf	2040 x 630 80"x 25"	2039 x 609 80"x 24"	2135 x 801 84"x 32"	2240 x 630 88"x 25"	2239 x 609 88"x 24"	2335 x 801 92"x 32"			
	2040 x 830 80"x 33"	2039 x 809 80"x 32"	2135 x 1001 84"x 39"	2240 x 830 88"x 33"	2239 x 809 88"x 32"	2335 x 1001 92"x 39"			
	2040 x 930 80"x 37"	2039 x 909 80"x 36"	2135 x 1101 84"x 43"	2240 x 930 88"x 37"	2239 x 909 88"x 36"	2335 x 1101 92"x 43"	2440 x 930 96"x 37"	2439 x 909 96"x 36"	2535 x 1101 100"x 43"
	2040 x 1030 80"x 41"	2039 x 1009 80"x 40"	2135 x 1201 84"x 47"	2240 x 1030 88"x 41"	2239 x 1009 88"x 40"	2335 x 1201 92"x 47"	2440 x 1030 96"x 41"	2439 x 1009 96"x 40"	2535 x 1201 100"x 47"
	2040 x 1130 80"x 45"	2039 x 1109 80"x 44"	2135 x 1301 84"x 51"						
2 leaves	2040 x 1260 80"x 50"	2039 x 1244 80"x 49"	2135 x 1436 84"x 56"	2240 x 1260 88"x 50"	2239 x 1244 88"x 49"	2335 x 1436 92"x 56"			
	2040 x 1460 80"x 58"	2039 x 1444 80"x 57"	2135 x 1636 84"x 64"						
	2040 x 1660 80"x 65"	2039 x 1644 80"x 65"	2135 x 1836 84"x 72"	2240 x 1660 88"x 65"	2239 x 1644 88"x 65"	2335 x 1836 92"x 72"	2440 x 1660 96"x 65"	2439 x 1644 96"x 65"	2535 x 1836 100"x 72"
	2040 x 1860 80"x 73"	2039 x 1844 80"x 73"	2135 x 2036 84"x 80"						
	2040 x 2060 80"x 81"	2039 x 2044 80"x 80"	2135 x 2236 84"x 88"	2240 x 2060 88"x 81"	2239 x 2044 88"x 80"	2335 x 2236 92"x 88"	2440 x 2060 96"x 81"	2439 x 2044 96"x 80"	2535 x 2236 100"x 88"

Consult us for other dimensions.

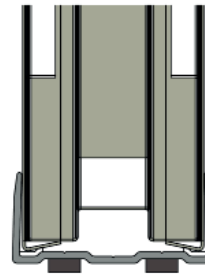
"H" door frame for machinery passage.



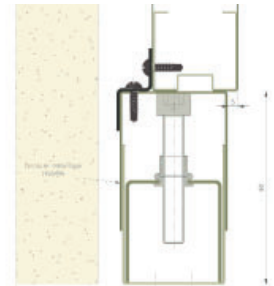
ET40 panel

Connection at the bottom part

Connection to finished floor with a profile fixed to the floor or on metallic adjustable belt.



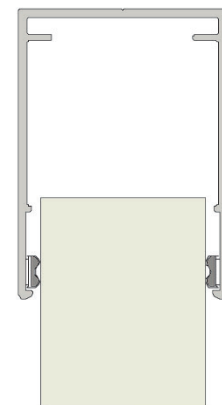
On lacquered aluminium U profile



On adjustable belt

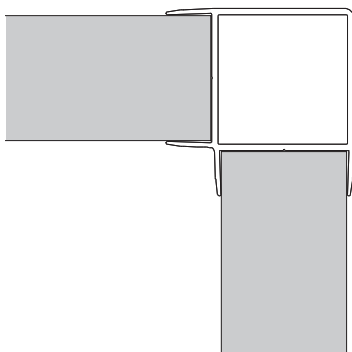
Connection to the upper part

A 50 mm 1.97" wide U-section fixed under the framework of the false ceiling enables panel by panel assembly and disassembly and absorbs possible level allowances. The two joints provide tightness and dampen vibrations.

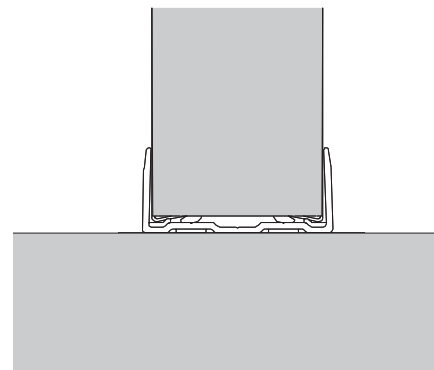


Corner connections

*two directions junction
with semi-flush profile*



*three directions junction
with semi-flush profile*



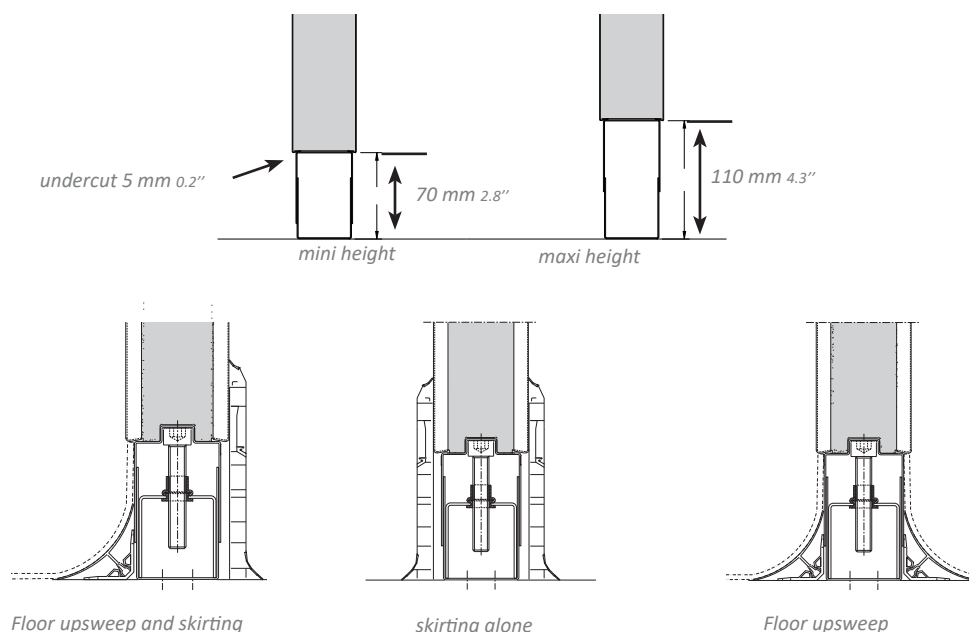
ET60 panels

Link to floor

With adjustable metallic belt

In the case of uneven floors, adjustable metallic belts can be used to achieve the levelling necessary for the installation of ET panels. An angle fillet is available as an option to provide support for floor upsweeps flush with panel. A plinth can be set on the outside face of the partition.

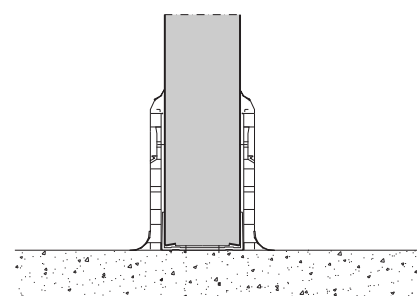
Plinth accessories (end-pieces, inside and outside angle trims) provide an excellent finish.



With U profile on the floor

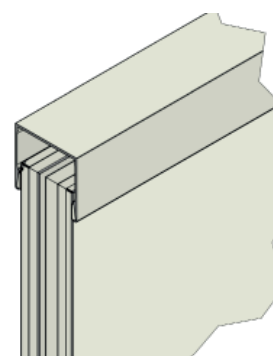
Partitions are held to the floor by U profiles protected on each side of the partition by 2 plinths if required.

It is set directly on the finished floor.



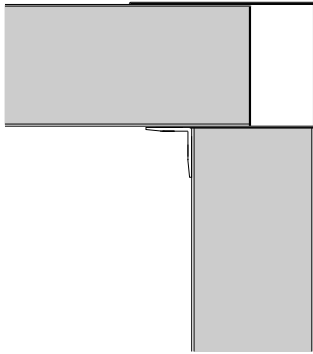
Connection to the upper part

A 65 mm 2.6" wide U-section fixed under the framework of the false ceiling enables panel by panel assembly and disassembly and absorbs possible level allowances. The two joints provide tightness and dampen vibrations.



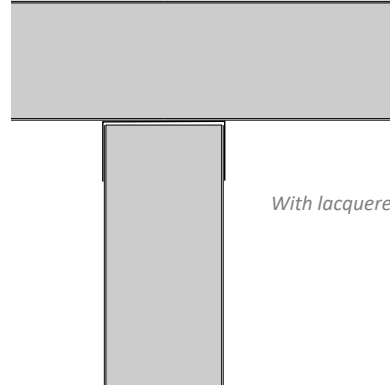
Connection between partitions

Partition to partition junction at angle



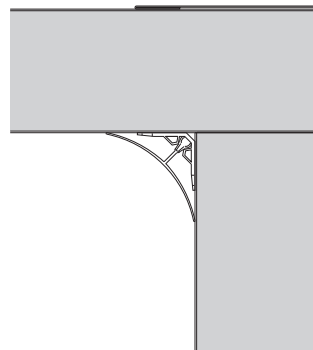
With aluminium profiles

Partition to partition junction in wall



With lacquered aluminium U-profile

Partition to ceiling junction



With lacquered angle bracket

Fixing of partitions

6 m 19.7' is the maximum height for inside partition walls. Very high partition walls might need to be secured to a bar at several points.

Plenum ceilings

Tightness, a vital requirement of plenums, is ensured by ceilings. They can be suspended or can stay on the building framework. Ceilings are accessible for maintenance : 150 daN 337 lbf is allowed at any point enabling the admission of one man with tool case.

A specific study must be drawn up for each project. The number and types of fixing brackets will be made appropriate to the site with spans usually being in the area of 2.40 m 7.9'.

The different cut-outs necessary for the integration of accessories will be clad as necessary (aluminium adhesive, metallic profiles...). Additional frameworks or fixing systems can be useful depending on the size and number of cut-outs.

You must define your project indoor and the outdoor type of atmosphere in order to select the most appropriate types of panel facings.

Indoor atmosphere

With no clean room specific data, we have to reply on food and food processing industries classification for metallic panel facing types.

Aggressivity	Cleaning	Hygrometry	Temperature	Examples	Minimum category of appropriate coatings (NF P34.301)	Recommended coatings
Ai 1 Non-aggressive environment	Regular maintenance	Low	-40°C to +25°C -40° to +77°F	Storage of wrapped dry products	I	Polyester 25 µm PVDF 35 µm PVC 120 µm PET 55 µm Stainless steel 304 Stainless steel 304 + PVC + PET
Ai 2 Non-aggressive environment	Regular maintenance	Average	0°C to +25°C +32° to +77°F	Storage in controlled atmosphere	II	
Ai3 Non-aggressive environment	No Intensive cleaning	High	0°C to +25°C +32° to +77°F	Storage, processing moist ambient	IIIa	
Ai4 Slightly aggressive environment	No Intensive cleaning	High	0°C to +30°C +32° to +86°F	Preparation of pre-cooked foods	IVb	PVDF 35 µm PVC 120 µm PET 55 µm Stainless steel 304 Stainless steel 304 + PVC + PET
Ai5 Aggressive environment	Intensive cleaning	High	0°C to +35°C +32° to +95°F	Cooking rooms, dryers	Vc	PVC 120 µm PET 55 µm Stainless steel 304 Stainless steel 304 + PVC + PET
Ai6 Very aggressive environment	Very intensive cleaning	Saturated	0°C to +40°C +32° to +104°F	Showers washrooms	(*)	Stainless steel 304 + PVC + PET Stainless steel 316L

Extract from DTU 45.1 – Food handling facilities

N.B. :

- The table is provided as a guide only, the classes must be appropriate to the controlled conditions of each facility.
- A single parameter could justify the selection of ambient conditions (hygrometry, cleaning frequency, chemical aggressivity, salinity)

Aggressivity criteria

- 1 – No aggressive ambient conditions: environment presenting no aggressivity due to corrosive chemical components and/or microorganisms.
- 2 – Slightly aggressive ambient conditions: environment with no aggressive ambient conditions but whose walls could occasionally be splashed with slightly aggressive liquids.
- 3 – aggressive ambient conditions: environment where acid, basic or saline acid vapours occur and/or with presence of microorganisms and/or likely to be subjected to disinfection.
- 4 – very aggressive ambient conditions: environment where acid, base or saline acid vapours or gas occur and/or with presence of microorganisms and/or frequent risk of splashing of walls and/or likely to be subjected to disinfection with aggressive products.

Cleaning criteria

- 1 – regular maintenance: this involves regular supervision and occasional cleaning (frequency from one to several years according to the use of the facility) using non-aggressive methods and resources (no pressure washing).
- 2 – non-aggressive cleaning (usually on monthly basis): cleaning performed with neutral products at temperature of 30°C 86°F and low pressure spraying of $\leq 0.3\text{Mpa}$ 6 266 lbf/sq.ft.
- 3 – intensive cleaning (usually on daily basis): cleaning performed with neutral products (ph 5 to 9) at temperature of 40°C 104°F and pressure of 3.5 Mpa 73 099 lbf/sq.ft (pressure of spray nozzle).
- 4 – very intensive cleaning (usually on daily basis): cleaning performed with occasional use of extreme pH (<math><5</math> or >9) and/or high temperature (<math><60^{\circ}\text{C}</math> 140°F) and/or high pressure washing (pressure <math><5\text{Mpa}</math> 104 430 lbf/sq.ft at output from nozzle and impact pressure <math><0.04\text{Mpa}</math> 835 lbf/sq.ft).

Humidity criteria

- 1 – humidity ambient conditions: ambient conditions are said to be «humid» where the hygrometry of the facility is high and if under the operating conditions of the facility there is a risk of condensation.
- 2 – very humid ambient conditions: ambient conditions are said to be very humid where the hygrometry of the facility is very high and if under the operating conditions of the facility the risk of condensation is frequent.
- 3 – saturated ambient conditions: ambient conditions are said to be saturated where the hygrometry of the facility is very high and if there is a permanent risk of condensation in the operating conditions of the premises.

Outdoor atmosphere

Outdoor atmospheres are classified by categories in order to comply with NF P 34-301 specifications for the selection of panel facings.

	Rural or no polluted atmosphere III	Urban or industrial atmosphere		Marine atmosphere				Specific atmosphere	
		normal III	harsh	20 to 10 km <i>12.43 to 6.22 mi</i> III	10 to 3 km <i>6.22 to 1.87 mi</i> IV	< 3 km <i>1.87 mi</i> V	mixte	high UV	special

Galvanized or coated with alloy (zinc and aluminium) steel

Polyester 25 μm <i>1mil</i>	••	••	•	••	-	-	-	-	•
PVDF 35 μm <i>1.3mil</i>	••	••	•	••	••	-	-	-	•

- unsuitable
- consult maker
- suitable

N.B.: the PET and PVC system are unsuitable for exterior use.

Technical characteristics of the supports

- z225 hot-galvanized **pre-powder coated or lined steel sheet**, mini shade s280 GD+Z, according to standard NF EN 10326, thickness 0,50 mm 0.019", 0,63 mm 0.024" or 0,75 mm 0.029"

- **Stainless steel sheet** shades, thickness 0,60 mm 0.023" or 0,80 mm 0.031"

* x5CrNi 18-10 (EN 1-4301 or AISI 304)

* x2CrNiMo17-12-2 (EN 1-4404 or AISI 316L)

- **Pre-powder coated aluminium** shade EN AW.3004 H46 according to standard EN 1396, thickness 0,67 mm 0.026"

Test types and results of various panel facings on galvanized steel sheets

	Testing standards and conditions	Polyester powder coat 25 µm	Conductive powder coat	PVDF powder coat 35 µm	PVC film 120 µm	PET 55 µm system
Category	XP P 34-301	IIIa		IVb	Vc	Vc
Gloss	ISO 2813 (ECCA-T2) incidence 60°	30 ± 6%	30 ± 6%	30 ± 6%	25%	30 ± 6%
Shock resistance	ISO 6272 (ECCA-T5)	No loss of panel face adherence				
Adherence by bending	ISO 1519 (ECCA-T7)	3t	3t	2t	0t	1t
Resistance to humidity	ISO 6270 (ECCA-T9)	≥ 1000 h	≥ 1000 h	≥ 1000 h	≥ 1000 h	≥ 1500 h
Resistance to neutral salt spray	ISO 7253 (ECCA-T8)	≥ 360 h	≥ 360 h	≥ 500 h	≥ 500 h	≥ 500 h
Chalk hardness	ISO 3270 (ECCA-T4)	H	H	HB	2H	2H
Adherence to panel face (grid pattern)	ISO 2409		Class «0»			
Panel face resistance to heat	ISO 3270 (ECCA-T13)	100 h to 80°C 176°F ΔE ≤ 0,1		100 h to 70°C 158°F ΔE ≤ 0,1	100 h to 70°C 158°F ΔE ≤ 0,1	
Resistance to abrasion	ISO 7784	40 mg	5.6 mg	30 mg	10 mg	
Reaction to fire	NF P 92-507	M0	M0	M0	M1	M0
Surface resistivity	ASTM D257	10 ¹¹ Ω/□	10 ⁷ Ω/□			

Special warning for HPL panel face

Compact laminated sheets are very sensitive to hygrometry conditions : high variation of dimensions under extreme high or low ambient humidity can occur.

For that reason, several precautions must be taken at the different production or delivery stages : HPL sheets or finished HPL panels must be stored under tight controlled ambient conditions: from 10 to 30°C 50°F to 86°F and relative humidity 40 to 60 %). Finished HPL panels should not be used under high temperature and/or high relative humidity conditions.

Storage and working conditions : The 2 sides of the HPL panels must remain aerated and within the average temperature range of 10 to 30°C 50°F to 86°F and relative humidity from 40 to 60 %.

Ignoring these warnings, bending or twisting of the HPL panels may occur.

Resistance of panel faces to chemical products

Information given as a guide only

Coatings		Polyester lacquer	Conductive lacquer	PVDF 35 µm 1.38 mils	PVC 120 µm 4.7 mils	PET 55 µm 2.16 mils	Compact laminated	Stainless steel 304 + PVC + PET	Stainless steel 304	Stainless steel 316L
Chemical products	Chemical family									
Acetone	Ketone	⊖	⊖	⊖	⊖	⊖	☺	☺	☺	☺
Acetic acid (CH ₃ COOH) (vinegar) 10%	Acid	⊖	⊖	☺	☺	☺	☺	☺	☺	☺
Hydrochloric Acid (HCl) 10%	Acid	⊖	⊖	⊖	⊖	☺	☺	✓	⊖	☺
Nitric acid (H ₂ NO ₃) 10%	Acid	⊖	⊖	☺	☺	☺	☺	☺	☺	☺
Phosphoric acid (H ₃ PO ₄) 10%	Acid	⊖	⊖	☺	☺	☺	☺	☺	☺	☺
Sulphuric acid (H ₂ SO ₄) 10%	Acid	⊖	⊖	☺	☺	☺	☺	☺	☺	☺
Ethyl alcohol - Methylated spirit	Alcohol	☺	☺	☺	☺	☺	☺	☺	☺	☺
Isopropyl alcohol	Alcohol	☺	☺	☺	☺	☺	☺	☺	☺	☺
Ammonia - NH ₄ OH	Base	⊖	⊖	☺	☺	☺	☺	☺	☺	☺
Ammonium bisulphite	Salt	☺	☺	☺	☺	☺	☺	☺	☺	☺
Buthanol	Alcohol	☺	☺	☺	☺	☺	☺	☺	☺	☺
Sodium hypochlorite - NaClO (Javel water) high concentration		⊖	⊖	⊖	⊖	☺	☺	✓	☺	☺
Therebentine	Alcohol	☺	☺	☺	☺	☺	☺	☺	☺	☺
MEK (Methyl ethyl Ketone)	Ketone	⊖	⊖	⊖	⊖	⊖	☺	⊖	☺	☺
Methanol	Alcohol	☺	☺	☺	☺	☺	☺	☺	☺	☺

Caption



Prohibited



Recommended



Suitable To be studied case by case

Resistance of panel faces to chemical products

Information given as a guide only

Coatings		Polyester lacquer	Conductive lacquer	PVDF 35 µm 1.38 mils	PVC 120 µm 4.7 mils	PET 55 µm 2.16 mils	Compact laminated	Stainless steel 304 + PVC + PET	Stainless steel 304	Stainless steel 316L
Chemical products	Chemical family									
Phenol	Alcohol	☺	☺	☺	☺	☺	☺	☺	☺	☺
Potash - Potassium hydroxide - KOH - 10%	Base	☹	☹	☺	☺	☺	☺	☺	☺	☺
Alkaline industrial soap	Base soap	☹	☹	☺	☺	☺	☺	☺	☺	☺
Chlorinated industrial soap	Neutral soap	☹	☹	☺	☺	☺	☺	☺	☺	☺
No chlorinated industrial soapé	Neutral soap	☺	☺	☺	☺	☺	☺	☺	☺	☺
Kitchen salt (Sodium chloride - NaCl)	Salt	☹	☹	☹	☹	☹	☺	☺	☺	☺
Kitchen salt + use of acidic cleaning agents	Salt + Acid	☹	☹	☹	☹	☹	☹	☑	☹	☺
Sodium hydroxide - NaOH - 10%	Base	☹	☹	☹	☺	☺	☺	☺	☺	☺

Panel face resistance to hydrogen peroxide H2O2 (oxygenated water) (fogging tests)

Materials	Pre-coated sheet - polyester 25 µm 0.98 mil - PVDF 35 µm 1.38 mil - lacquer thk. ≤ 50 µm 1.97 mil	Painted sheets - paint 50 µm 1.97 mil ≤ thk. < 80 µm 3.15 mil	Painted sheets - paint thk. ≥ 80 µm 3.15 mil	Film clad sheets (process) - PET 55 µm 2.16 mil - PVC 120 µm 4.7 mils	Compact laminated	Stainless steel 304 + PVC + PET	Untreated stainless steel 304, 316L,
Decontamination frequency							
Low	☹	☹	☑	☺	☺	☺	☺
Average	☹	☹	☑	☺	☑	☺	☺
High	☹	☹	☹	☑	☑	☑	☺

Refer to Chapter 12 – Panel face shade chart for further information.



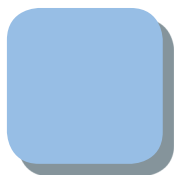
Midnight blue
RAL 5011



Pacific blue
RAL 5010



Horizon blue
RAL 5015



Glacier blue
Pantone 278C



Lagoon green
RAL 6027



Meadow green
RAL 6018



Forest green
RAL 6029



Sulphur yellow
RAL 1016



Pale orange
Pantone 1495



Bright pink
RAL 3015



Molten red
RAL 3020



Canyon red
RAL 3013



Storm grey
RAL 7040



Pebble white
RAL 9002



Iceberg white
RAL 9010

Ours colours are close to RAL and Pantone references.