



Formica® Compact

STRUCTURAL LAMINATES by FORMICA GROUP

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The Formica® brand is the world's leading name in decorative surfaces and is the single most specified brand of high pressure laminate among homebuilders, contractors and shopfitters. Formica® Compact is part of the comprehensive Formica® Collection and offers a perfect opportunity for combining functionality in high impact, interior areas with unique design.

Formica® Compact	5
Wall cladding	7
Washroom applications	9
Healthcare facilities	11
Design options	13
Furniture	15
Properties	17
Chemical resistance	17
Technical information	20
General requirements	22
Dimensional tolerances	23
Formica Compact grades	23
Photographic references	24
Contact information	24

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Formica® Compact

Formica® Compact is a high pressure laminate available in thicknesses from 2mm to 20mm and is ideal for interior use in washroom cubicles or locker doors, wall panels or furniture. In thicknesses of 6mm and above the core material acts as a substrate and the sheets do not require bonding. Structurally stable and damage resistant, this grade of laminate is particularly suitable for interior applications where material strength is important.

Formica Compact is faced on both sides with a decorative finish which, in CGS grade, is enhanced with a stylish black core. The material can be cut square or bevelled and polished, giving an all-round finish with a striking design feature.

It is particularly suited to use in high humidity, high impact areas and, with a density of 14 kg/m² (for 10mm thickness), Compact is impressively strong and damage resistant.

Formica Compact is certified by the CE Mark to meet or exceed conformity with European consumer safety, health and environmental requirements and conforms to EN438:2005.

Compact Grade is available in standard grade (CGS) and flame-retardant grade (CGF). CGF flame retardant grade compact is capable of achieving Euroclass B, which is the best performance for organic materials.

CGS grade is available with a black core. Please note that CGF grade has a brown core and that the colour of the core may vary between manufacturing batches. This is due to the special manufacturing process and material properties and cannot be considered as a defect.

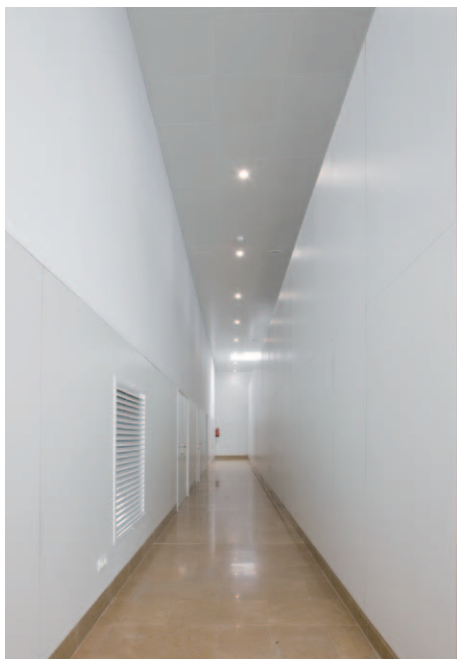




Wall Cladding

Formica® Compact is a popular choice for interior wall cladding in demanding environments such as schools, hospitals and shopping centres. As Formica Compact is very strong and damage resistant and also available in a large range of decors and textures, it is the perfect choice when combining practical functionality with architectural design.

Formica Compact panels used for wall cladding may be fixed by screwing directly through the face to vertical plywood battens. Thinner grades (4-6mm), may also be bonded to vertical plywood battens with heavy duty building adhesives. The chosen method of attachment will depend on the installation, board thickness and visual design criteria.



For technical information regarding bonding of Formica® Compact, please contact Formica Group customer service or your preferred adhesive supplier.





Washroom applications

In any building, washrooms need to be practical, pleasant and clean. Formica® Compact makes it simple to achieve high standards of hygiene in washrooms. It has an attractive finish which can be cleaned thoroughly and quickly.

Resistance to water and humidity matters in this environment. Formica Compact (CGS grade) performs brilliantly in wet areas provided that correct installation procedures have been followed.

Formica Compact delivers real strength, stability and impact resistance which is perfect for hard-working cubicle doors and walls.

Formica Compact adds colour to washrooms, with hundreds of long-lasting colour, pattern, thickness and texture combinations proving that strength and practicality can look stylish.



Only standard grade Compact laminates (CGS) should be used in wet areas. Because of the specific properties of CGF grade, it is not suitable for use in wet areas.

For technical information regarding use of Formica® Compact in wet areas, please contact Formica Group customer service. See also Page 20 technical information section in this brochure or view our website formica.com.





Healthcare facilities

Formica® Compact is widely used in hospitals and other healthcare environments. The product is ideal for applications such as wall cladding in corridors and hospital rooms, working spaces in laboratories, operating theatres and for many different kinds of furniture.

Because the surface is completely sealed, Formica Compact is very easy to clean and maintain. The fact that Formica Compact is inert and does not support microbial growth makes it a perfect choice for healthcare environments where high levels of hygiene are a must and where contamination could be a real threat. It is also strong enough to be used in large sheets which minimises the need for joints which could harbour dirt and bacteria.







Design Options

Formica® Compact is available in many different decors and textures. Almost all decors in the Formica® Collection are available in Compact grade (CGS and CGF). The Formica Collection is a harmonised portfolio of decorative laminate options, specifically selected in response to European trends. The Formica Collection contains almost 400 decor and surface finish combinations.

With our Impress service it is also possible to create your own pattern or design or to capture your photography or corporate logo in Formica Compact.



Please visit formica.com to see the endless opportunities and different combinations of decors, textures and panel sizes. At formica.com you can also find information about our interior compact promoted offer for easy and quick accessibility.







Furniture

Formica® Compact is an excellent material for furniture. It is strong, impact-resistant and will not delaminate. This makes Formica Compact furniture the right choice for applications where performance, practicality, easy cleaning and lasting quality count.

With Formica Compact durability is not at the expense of design. An extensive choice of colour and pattern combinations is available, giving unlimited design options. Formica Compact's homogeneous black core makes a smart visual counterpoint when left exposed - with the added advantage that edge finishing is not necessary.

Formica Compact can be easily worked to produce the stylish shapes and forms that contemporary designers demand. With a decorative surface on both sides, Formica Compact furniture always has a fully designed finish - whichever way you look at it.







Properties

The inherent physical properties of Formica® Compact perform to meet the strictest of cleaning and maintenance regimes, without the need for further additives or treatments.

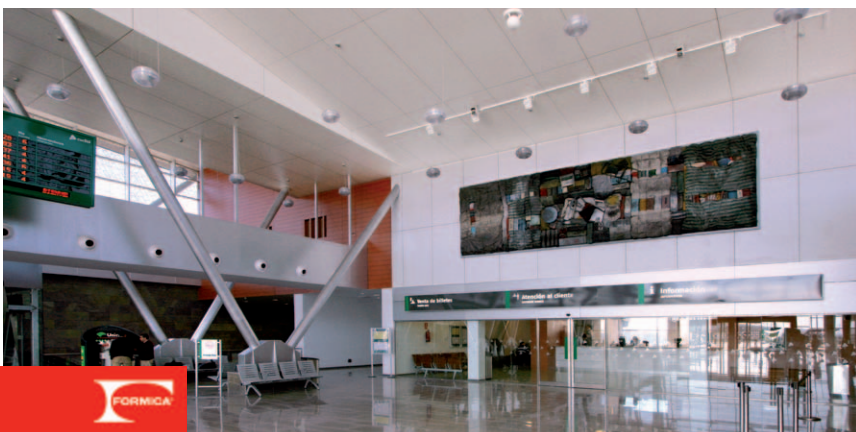
Because the surface is completely sealed, Formica® decorative laminates are impervious to liquids and are very easy to clean and maintain. Laminate surfaces are best kept clean simply by using water and mild detergent. They are resistant to steam and boiling water and are therefore ideal for applications where cleanliness and hygiene are important factors. Formica Compact is inert and does not support microbial growth. Also, it has no migration affecting food and, consequently, is approved for contact with foodstuffs.

Formica decorative laminates have been widely and satisfactorily used for many years in laboratories in medicine and industry. They easily meet the requirements of EN438:2005, which specifies resistance to staining by over 40 substances which are likely to be encountered in everyday use. These include tea, coffee, milk, citric acid, acetone, alcohol, fruit juices, detergents, bleaches and colouring agents.

Chemical Resistance

Property	Chemical
No effect after 16 hours contact	Acetic acid, acetone, ammonia, alcohol, amyl acetate, benzene, butyl acetate, carbon tetrachloride, caustic soda (less than 10% sol), citric acid, detergents, olive oil, paraffin, phenol, petrol, soap, sugar solution, toluene, xylene.
No effect if the material is removed completely after 10-15 minutes	Caustic soda (more than 10% sol), ferric chloride, formic acid, hair dye, hypochlorite bleach, hydrochloric acid (less than 10%), hydrogen peroxide (less than 30%), iodine, nitric acid (less than 10%), oxalic acid, phosphoric acid (less than 10%), potassium permanganate, silver nitrate, sulphuric acid (less than 10%).
Permanent discolouration or probability of surface attack indicating that the material must be immediately removed	Hydrochloric acid, nitric acid, phosphoric acid and sulphuric acid more than 10%.

For information regarding worktop material for extreme environments please find the product information for Chemtop2™ on our website formica.com or contact Formica Group customer service. Chemtop2™ technology features an advanced chemical resistant surface that is ideal for high stress environments where particularly destructive or staining substances are used.



Education
 Washrooms
 Healthcare
 Laboratories
 Public areas
 Restaurants
 Leisure / sports
 Hotels
 Transport centres
 Offices
 Retail
 Industry
 Wall cladding
 Furniture
 Partitions
 Worktops
 Showers
 Store fixings and fixtures
 Design features



Hygienic
 Functional
 Strong
 Low maintenance
 Durable
 Design options
 Choice of colours and textures
 Stylish
 Impact resistant
 Damage resistant
 Versatile
 Easy to clean
 Practical
 Water resistant
 Fire resistant grade available



Technical information

Before fabrication/installation of Formica® Compact, please read the Formica® Fabrication advice for Compact which is available at formica.com.

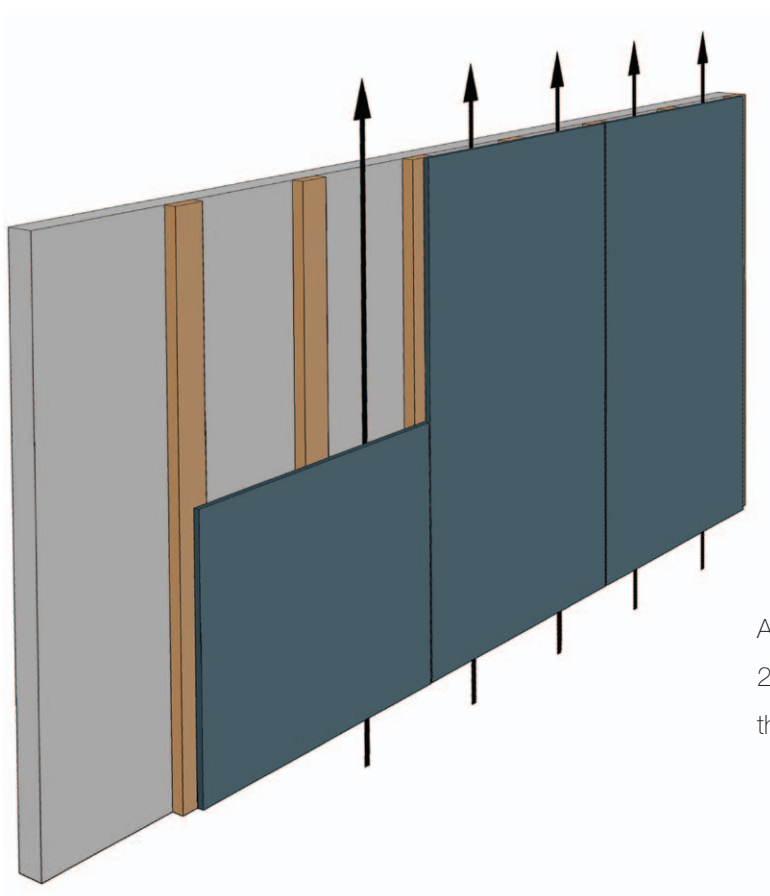
Formica Compact should be stored on flat pallets and covered with a cap sheet. Lift the sheets straight up, do not slide the sheets against each other.

Before installation of Formica Compact, pre-conditioning for a period 72 hours in the end environment is recommended.

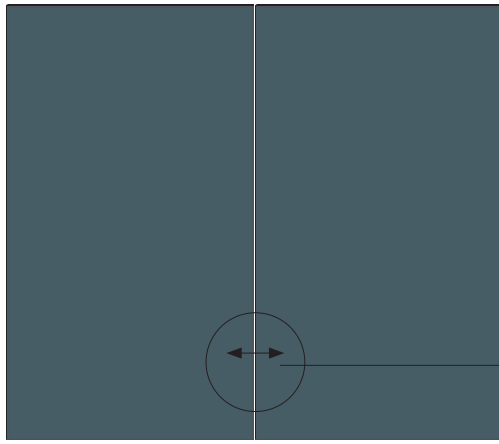
Only standard grade Compact laminates (CGS) should be used in wet areas. Because of the specific properties of CGF grade, it is not suitable for use in wet areas.

Compact panels should not be fixed to freshly constructed blockwork or brickwork until adequate drying has taken place, nor should they be fixed to damp interior walls which form the external shell of the building without the protection of a damp-proof membrane.

For information regarding bonding of Formica Compact, please contact Formica Group customer service or your preferred adhesive supplier.

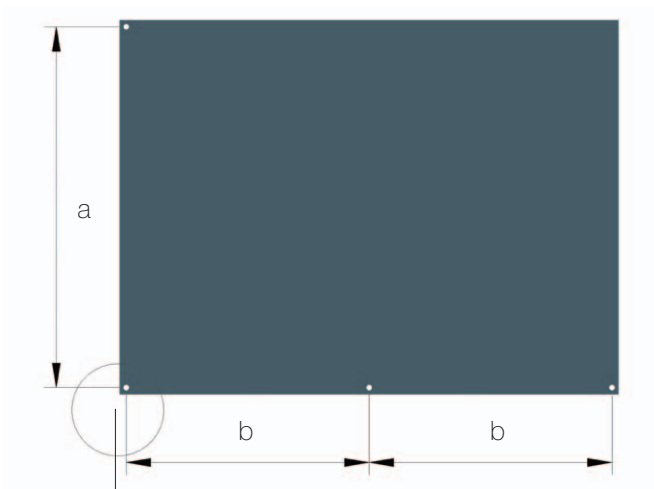


A minimum air circulation space of 20mm must be maintained behind the sheets.



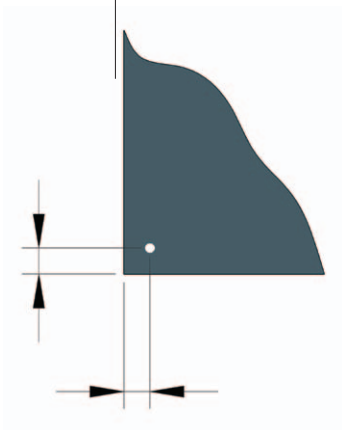
The distance between a solid object and a Formica Compact panel must be min. 5mm and the distance between two Compact panels should be min. 6mm.

min. 6mm

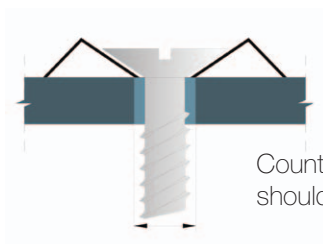


Thickness	a (2 fixings in one direction)	b (3 or more fixings in one direction)
4mm	300mm	300mm
6mm	450mm	550mm
8mm	600mm	750mm
10-20mm	750mm	900mm

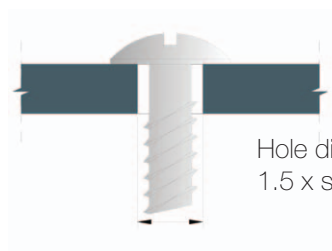
The maximum distance between screws depends on the thickness of the Formica Compact panel.



Through - fixing holes should be at least 1.5 times the outside diameter of the screw being used and should be positioned a minimum of 20mm from the edge of the panel.



Countersunk screws should not be used.



Hole diameter:
1.5 x screw diameter.

General requirements

Property	Test Method	Property / Attribute	Unit (max or min)	Laminate Grade	
				CGS	CGF
Resistance to surface wear	EN 438-2-10	Wear resistance	Revolutions (min) Initial point Wear value	150 350	150 350
Resistance to impact by large diameter ball	EN 438-2-21	Drop height ^{a)}	mm (min) 4-6 mm mm (min) 6 mm >	1400 1800	1400 1800
Resistance to scratching	EN 438-2-25	Force	Rating (min) (see Annexe A) Smooth finishes Textured finishes	2 3	2 3
Resistance to dry heat (180 °C)	EN 438-2-16	Appearance	Rating (min) Gloss finish Other finishes	3 4	3 4
Resistance to wet heat (100 °C)	EN 12721:1997	Appearance	Rating (min) Gloss finish Other finishes	3 4	3 4
Resistance to immersion in boiling water	EN 438-2-12	Mass increase	% (max) 4 mm 6 mm - 20,0 mm	5,0 2,0	7,0 3,0
		Thickness increase	% (max) 4 mm 6 mm - 20,0 mm	6,0 2,0	9,0 6,0
		Appearance	Rating (min) Gloss finish Other finishes	3 4	3 4
Dimensional stability at elevated temperature	EN 438-2-17	Cumulative Dimensional Change	% (max) 4 mm L ^{b)} T ^{c)}	0,40 0,80	0,40 0,80
			6 mm - 20,0 mm L T	0,30 0,60	0,30 0,60
Resistance to staining	EN 438-2-26	Appearance	Rating (min) Groups 1 & 2 Group 3	5 4	5 4
Light fastness (xenon arc)	EN 438-2-27	Contrast	Grey scale rating	4 to 5	4 to 5
Resistance to water vapour	EN 438-2-14	Appearance	Rating (min) Gloss finish Other finishes	3 4	3 4
Resistance to crazing	EN 438-2-24	Appearance	Grade (min)	4	4
Flexural modulus	EN ISO 178:2003 ^{d)}	Stress	Mpa (min)	9000	9000
Flexural strength	EN ISO 178:2003 ^{d)}	Stress	Mpa (min)	80	80
Tensile strength	EN ISO 527-2:1996 ^{e)}	Stress	Mpa (min)	60	60
Density	EN ISO 1183-1:2004	Density	g/cm ³ (min)	1,35	1,35

a) When tested at the specified drop height, the diameter of indentation shall not exceed 10mm.

b) L = in the longitudinal (or machine) direction of the fibrous sheet material (normally the direction of the longest dimension of the laminate).

c) T = in the cross-longitudinal (cross-machine) direction of the fibrous sheet material (at right angles to direction L).

d) Machine crosshead speed 2 mm/min.

e) Specimen type 1A. Machine crosshead speed 5 mm/min.

f) Tested in accordance with procedure A using specimen III.

Annexe A (informative)

The degree to which decorative laminates show scuff and scratch marks is influenced by surface finish and colour, and the limits given in the above table indicate the minimum acceptable performance for each grade of laminate. However, superior scratch resistance performance can be achieved by selecting particular combinations of surface finish, colour and pattern.

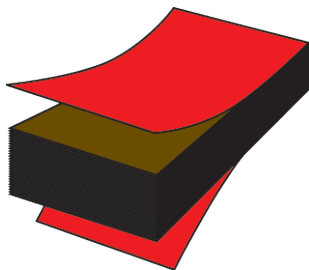
In general terms, scuff and scratch marks are less easily seen on textured surfaces than on plane surface finishes; light colours are better than dark colours; and prints are usually better than plain colours.

Dimensional tolerances

Property	Test Method	Requirement (maximum deviation)
Thickness	EN 438-2-5	4,0 mm \pm 0,30 mm 6,0 mm \pm 0,40 mm 8,0 - 12,0 mm \pm 0,50 mm 12,0 - 16,0 mm \pm 0,60 mm 16,0 - 20,0 mm \pm 0,70 mm
Flatness ^{a)}	EN 438-2-9	4,0 - 6,0 mm \pm 8,0 mm/m 6,0 - 10,0 mm \pm 5,0 mm/m 10,0 mm $>$ \pm 3,0 mm/m
Length and Width ^{b)}	EN 438-2-6	+10 mm / -0 mm
Straightness of Edges	EN 438-2-7	1,5 mm/m
Squareness	EN 438-2-8	1,5 mm/m

a) Provided that the laminates are stored in the manner and conditions recommended by the manufacturer they shall comply with the flatness requirements specified in this table when measured in accordance with EN 438-2-9. The flatness values specified in this table apply to laminates with two decorative faces. Limits for laminates with one face sanded shall be agreed between supplier and customer.

b) Tolerances for cut-to-size panels shall be agreed between supplier and purchaser.



Grade HPL/EN 438-4 CGS

Compact, General Purpose, Standard high pressure decorative laminate. EN 13501 Euroclass C-s2,d0.

Grade HPL/EN 438-4 CGF

Compact, General Purpose, Flame Retardant high pressure decorative laminate. EN 13501 Euroclass \geq 6 mm B-s1,d0 < 6 mm B-s2, d0.

CGS grade is available with a black core only. Please note that CGF grade has a brown core and that the colour of the core may vary between manufacturing batches. This is due to the special manufacturing process and material properties and cannot be considered as a defect.



N ° 0402



ISO 9001:2000



ISO 14001:2004

Formica Group are FSC® certified and comply with the requirements of FSC. Network of participating European Formica Group sites is shown on certificate number TT-COC-003588.

Formica Group is committed to making sustainable principles and practices a part of everything we do. We strive to adhere to the highest ethical standards as we advance in our efforts to protect vital resources for future needs.

The Company retains the right to change specifications at any time without prior notification. We recommend that you order samples before final specification, fabrication or installation. The information given in this brochure is correct at the time of publication. However, as we have a policy of constant product development and improvement, product details may change in the future.

Photographic references:

PAGE 4 Konstfack art academy, Stockholm, Sweden. Design: Wingårdhs / Love Arbén Arkitektkontor, Sweden. Manufacturing: SA Möbler, Tibro, Sweden.

PAGE 8 Sberbank Data Centre, Moscow, Russia.

PAGE 9 Top L'Argila sport centre, Valencia, Spain. Architect: Arquêha Arquitectura y Urbanismo, S.L.P. Emilio Conejero Camps. Contractor: Armarios Levante Proyectos & Instalaciones. References: F0555/F7949, F7026, F0233, F7845, F4155, F1485, F7949, F2253. Application: washroom, lockers, corridor wall cladding, reception area.

Bottom Emirates Stadium, London, UK. Design: HOK Sport. Fabrication: Amwell Systems. Reference: F7845.

PAGE 10 Quiron Hospital, Madrid, Spain.

PAGE 11 Top & Bottom Quiron Hospital, Madrid, Spain **Middle** Moscow Hospital, Russia.

PAGE 13 Top Q10 chair, design by Josef Lindh, Malmö, Sweden. Winner of the Sydform furniture exhibition design competition 2010. For more information visit www.joseflindh.com **Middle** Quiron Hospital, Madrid, Spain

PAGE 14 Street restaurant, Hornstulls Strand, Stockholm, Sweden. Application: tables. Design: Kristina Jentzén & Malin Laakso, Stockholm. Manufacturing: Allado Service AB, Stockholm.

PAGE 15 Top Konstfack art academy, Stockholm, Sweden. Design: Wingårdhs / Love Arbén Arkitektkontor, Sweden. Manufacturing: SA Möbler, Tibro, Sweden **Middle** Cell shelf module. Design: Peter Cohen for Fraktion 2, Stockholm, Sweden. www.fraktion2.se. Manufacturing: Lego Tech Scandinavia AB, Stockholm. LE Svensson Snickeri AB, Stockholm. WR Controls AB, Timmele.

For information regarding remaining photos please contact Formica Group.

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