

dualBOND

ALUMINIUM COMPOSITE PANEL

ARCHITECTURAL SERIES

PRODUCT CATALOGUE

FR B1 - FR A2

TECHNICAL DETAILS

dualBOND COMPOSITE PANEL DIMENSIONS

Standard Panel Size	: 4 mm x 1250 mm x 3200 mm
Panel Thickness	: 3 mm - 6 mm
Panel Length	: max. 6000 mm
Panel Width	: 1000 mm - 1250 mm - 1500 mm

TOLERANCES OF dualBOND COMPOSITE

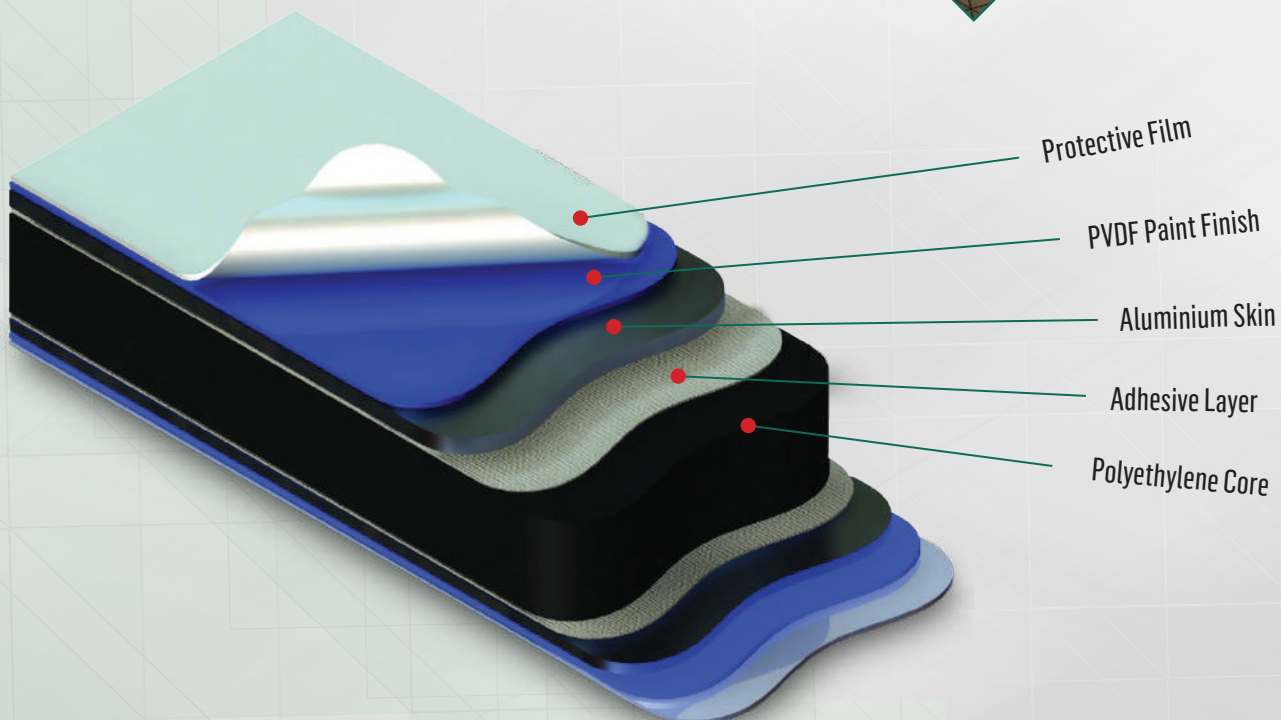
Panel Thickness	: $\pm 0,2$ mm
Panel Length	: -0 mm / + 4 mm
Panel Width	: -0 mm / + 2 mm
Diagonal Difference	: max. 3 mm

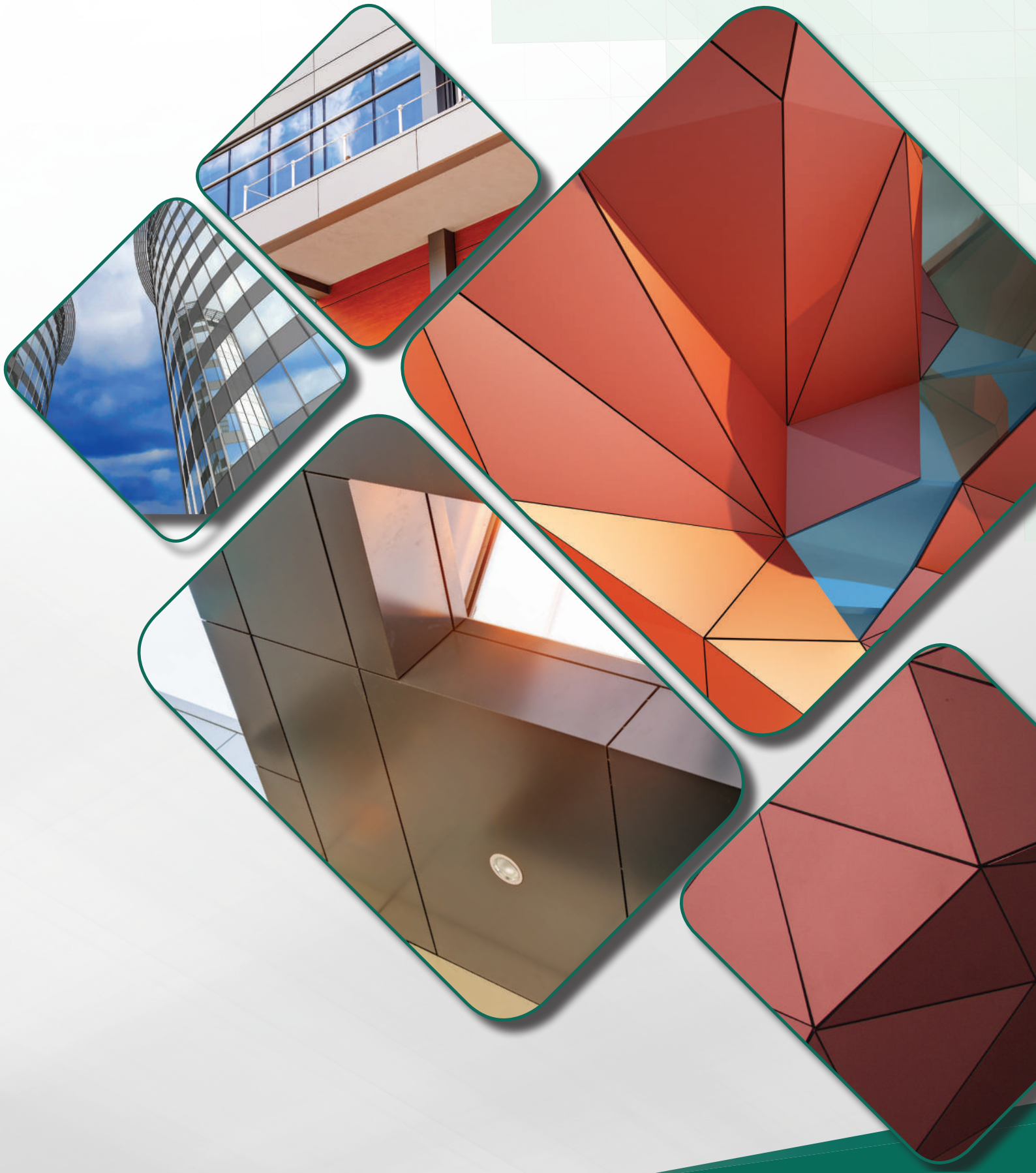
CURVATURE

Panel Length; 900 mm - 1500 mm	: max. 5 mm
Panel Width; 1500 mm - 3000 mm	: max. 7 mm
Panel Length; > 30000 mm	: max. 10 mm

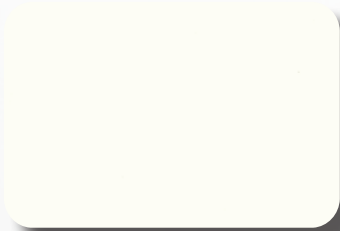
WEIGHT

Panel Thickness; 3 mm	: 4,6 kg / m ²
Panel Thickness; 4 mm	: 5,5 kg / m ²
Panel Thickness; 6 mm	: 7,3 kg / m ²

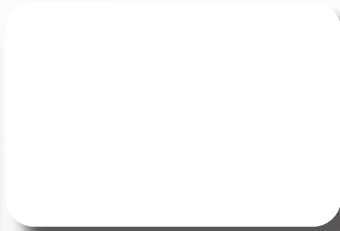




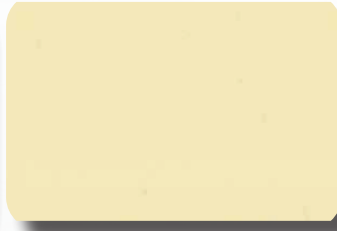
dualBOND STANDARD COLORS



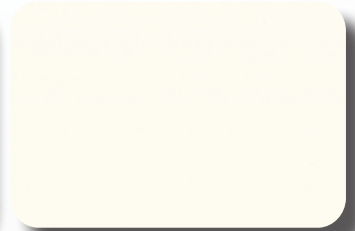
DB R9010
PURE WHITE



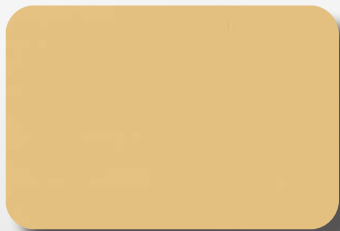
DB R9016
TRAFFIC WHITE



DB R1013
PEARL WHITE



DB R9001
CREAM



DB R1001
BEIGE



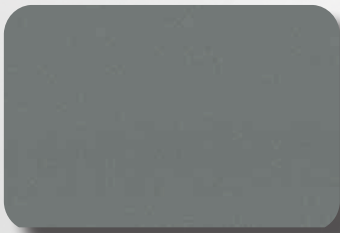
DB R1018
YELLOW



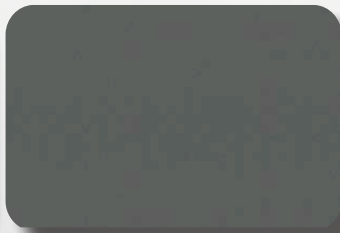
DB R8025
LIGHT BROWN



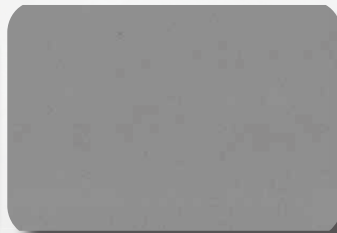
DB R7036
PLATIN GREY



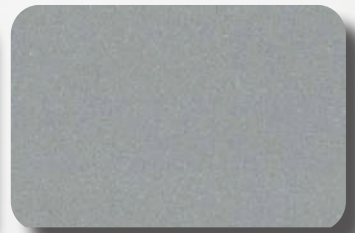
DB R9007
ALUMINIUM GREY



DB R9035
TITANIUM



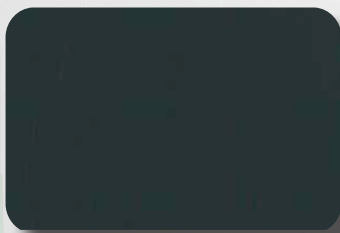
DR R9006
SILVER



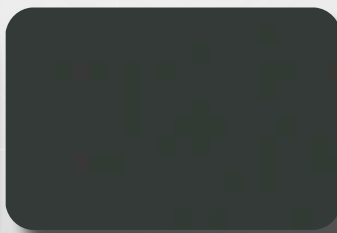
DB B9100
BRIGHT SILVER



DB 9030
CHAMPAGNE



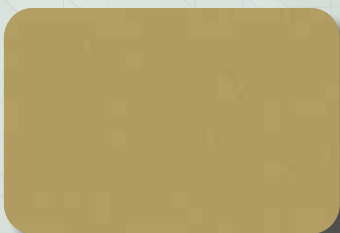
DB R7016
ANTHRACITE GREY



DB R7022
DARK GREY



DB R9005
BLACK



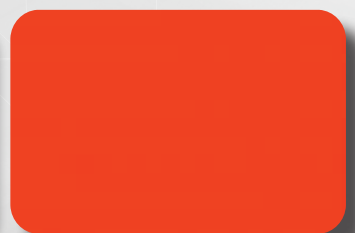
DB R1036
GOLD



DB R9040
BRONZE



DB 8023
INDIANA COPPER



DB R2009
ORANGE

dualBOND STANDARD COLORS



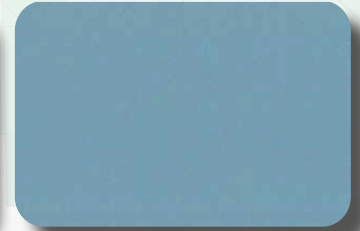
DB R3020
RED



DB R3003
RUBY RED



DB 0101
AZURE GREEN



DB R5009
AZURE BLUE



DB R5018
TURQUOISE



DB R6005
MOSS GREEN



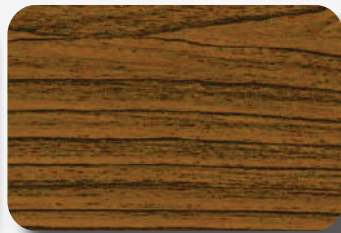
DM R5002
ULTRAMARINE BLUE



DB W0110
GOLDEN OAK LIGHT



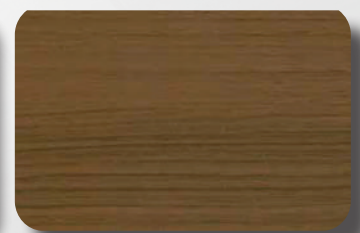
DB W0111
GOLDEN OAK DARK



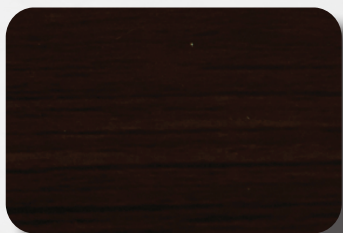
DB W0112
WALNUT LIGHT



DB W0113
WALNUT DARK



DB W0114
TEAK



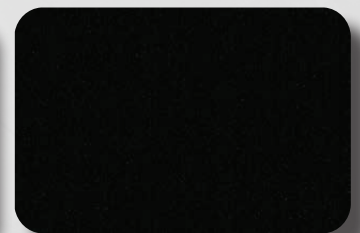
DB W0115
MAHOGANY



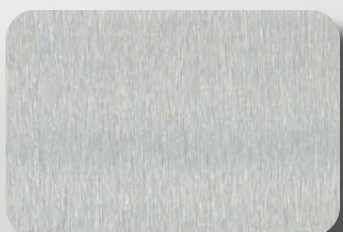
DB S0201
SPARKLING WHITE



DB S0202
SPARKLING RED

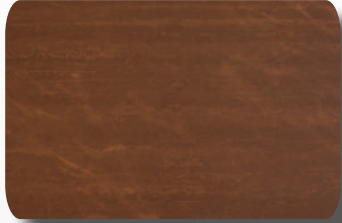


DB S0203
SPARKLING BLACK

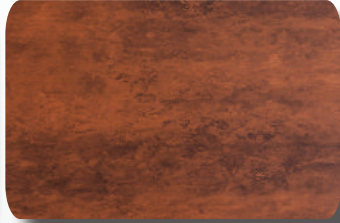


DB S0204
BRIGHT BRUSHED

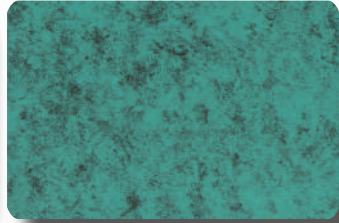
dualBOND SPECIAL COLORS



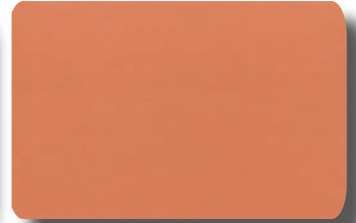
DB S0205
CORTEN STEEL I



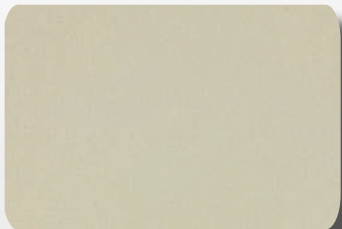
DB S0206
CORTEN STEEL II



DB S0207
PATTINA COPPER



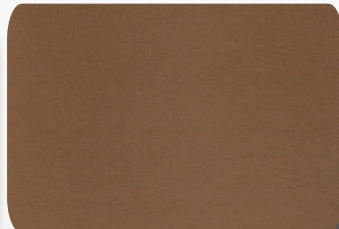
DB S0208
COPPER BRUSHED



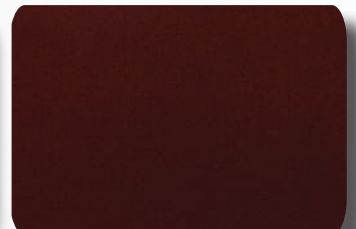
DB S0209
WRINKLED WHITE



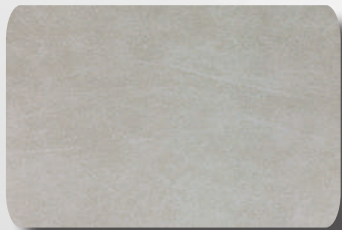
DB S0210
WRINKLED SILVER



DB S0211
WRINKLED GOLD



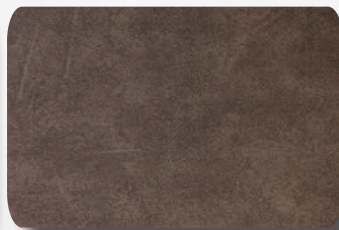
DB S0212
WRINKLED RED



DB S0213
CREAM CONCRETE



DB S0214
GREY CONCRETE



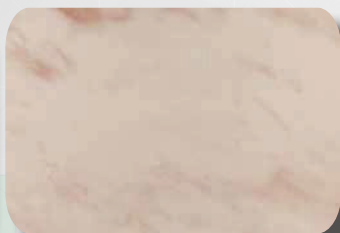
DB S0215
BROWN CONCRETE



DB S0216
DARK CONCRETE



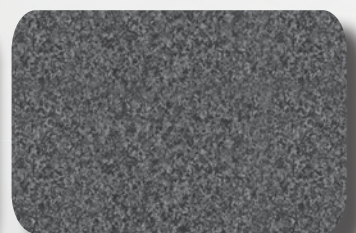
DB S0217
WHITE MARBLE



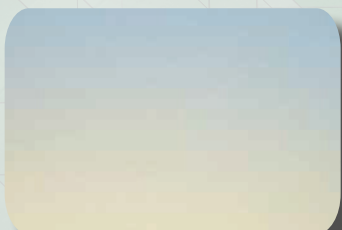
DB S0218
BEIGE MARBLE



DB S0219
TRAVERTINE MARBLE



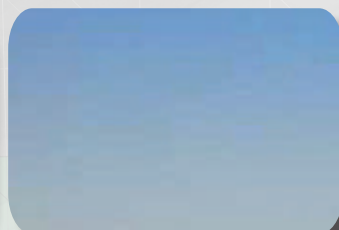
DB S0220
BLACK MARBLE



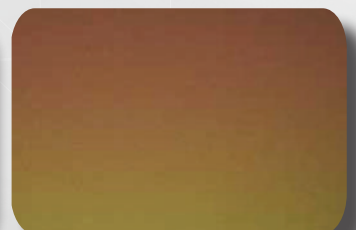
DB S0221
CREAM BLUE



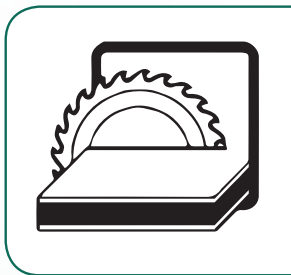
DB S0222
SILVER GOLD



DB S0223
GREY BLUE



DB S0224
ORANGE GOLD



Cutting



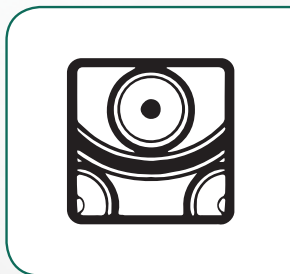
Punching



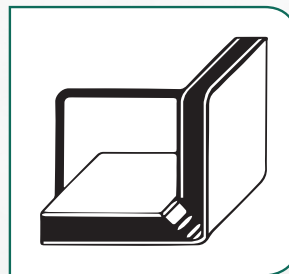
Contour Cutting



Bending



Roll Bending



Routing & Folding



Riveting



Screwing



- Protective foils must be disambled within 30 days after installation
- Installation of composite panels must be on the same direction of arrows on the protective foils to avoid tonality difference

EN AW 3005 Aluminium Mechanical Properties

Yield Strength (Rm) Mpa	: 140-195	(EN 10002)
Tensile Strength (Rp0.2) Mpa	: ≥95	(EN 10002)
Elongation (A50) %	: ≥5	(EN 10002)
Elasticity Module (MPa)	: 70.000	
Thickness Tolerance (mm)	: ± 0.02	(EN 485-4)
Width Tolerance (mm)	: +2/0	(EN 485-4)
Flatness (Edge Wave)	: d≤6 maks. d/f ≤ 1%	(EN 485-4)

EN AW 3005 Aluminium Chemical Composition

Fe %	Cr %	Ti %	Zn %	Mg %	Mn %	Si %	Cu %
0,45	0,01	0,02	0,03	0,45	1,13	0,21	0,11

dualBOND Aluminium Composite Panel Mechanical Properties

Yield Strength	(kg/mm ²)	: 4.1
Tensile Strength	(kg/mm ²)	: 4.8
Elongation	(l0=5,65 A0 ¹² - %)	: 15
Delamination Resistance(N/mm)		: 12.5
Bending Resistance (MPa)		: 122
Bending Elasticity Module (MPa)		: 10834

dualBOND Aluminium Composite Panel Production Tolerances

Panel Thickness (mm)	: ± 0.2
Width (mm)	: +2 / 0
Length (mm)	: +4 / 0
Diagonal Differences (mm)	: max.3

dualBOND Aluminium Composite Panel Dimensions

Standart Dimension (mm)	: 4 X 1250 X 3200
Thickness (mm)	: 2-6 (FR Panel max 5 mm)
Width (mm)	: 1000 / 1250 / 1500
Length (mm)	: Up to 6000 mm

dualBOND PANELS PVDF COATING PROPERTIES



Paint Quality	PVDF quality paint RAL or other colour standards can be supplied		
Pretreatment	Alkali degreasing and chromium - free conversion coating		
Catting	Type Of paint coating	Thickbess (Microns)	
Prime	Polyester	5 ± 2	(ECCAT1- EN 13523- 1)
Base Coat	PVDF	20 ± 2	(ECCAT1- EN 13523- 1)
Clear Coat (Optional)	PVDF or FEVE (Lumiflon)	12 ± 2	(ECCAT1- EN 13523- 1)
Total	Clear Coat (Optional)	32 – 2	(ECCAT1- EN 13523- 1)
Backcoat (Optional)	Epoxy-Polyester	5 ± 2	(ECCAT1- EN 13523- 1)
	Grey/Transparent		(ECCAT1- EN 13523- 1)

PRODUCT PERFORMANCE

Test Property	Specs	Test Results	Test Methods
Color Differences (Solid Colors)	$\Delta E \leq 1$	$\Delta E \leq 1$	ECCA-T3
Specular Gloss (60)	Requirement	Under Tolerances in EN1396	ECCA-T2
T Bend	Requirement	0 - IT	ECCA-T7
Impact	7,5 Joule	Pas	ECCA-T5
Cross-cut	$\leq GT1$	Pas	ISO 2409
Pencil Hardness	F- HB	Pas	ECCA- T4
MEK Resistance	100 DBR	Pas	ECCA-T11
5% HCL Acid & 5% NaOH Alkali Test	24HRS	Pas	ASTM D2248-01a(2007)
QUV-A Resistance	3000 Hours	Pas	ECCA- T10
Humidlity Resistaneece	3000 Hours	Pas	ASTM D2247
Abrasion Resistaneece	< 40 mg	Pas	ISO 11998
Salt Spray Test	3000 Hours	Pas	ECCA-T8

*EN 1396 GLOSS TOLERANCES

GLOSS UNIT RANGE	Tolerances on Nominal Gloss	Max. Variation Within One Supply	Gloss Type
≤5	±2	±1	Matt
6-12	±3	±2	Low Gloss
13-20	±4	±3	
21-20	±5	±4	Semi-Gloss
31-40	±6	±5	
41-60	±7	±6	
61-79	±8	±7	Gloss
≥80	Min. 80 gloss		Full Gloss

dualBOND PANELS MAINTENANCE & CLEANING GUIDE

The products which have been produced by coil coating technology need to have a special cleaning and maintenance program. In most cases, annual or suggested frequency according to environmental conditions would be required to keep the lacquered coated surface longterm quality.

The Required Cleaning Rules Are At the below ;

- Firstly wash the surface with clean water
- Clean the surface with water and mild detergent, followed by a clean water rinse. Use sponge, leather or wiper is necessary to avoid water stains.
- Cleaning agents must have pH between 5-8 values.
- If the soil is still adhering after dry, then 5-10% IPA (Isopropyl Alcohol) solution will be necessary.
- it should be used with soft sponges and/or soft rags. The washing should be done with uniform pressure.
- After washing, the surface should be thoroughly rinsed with clean water, and the rinsed surface is air-dried or wiped with squeegee or lint-free cloth

Do not do these;

- Do not clean sun-heated surfaces (above 40 °C) to avoid rapid drying which may lead to stain formation
- Do not use strong alkali (such as potassium hydroxide, sodium hydroxide/caustic soda) and strong acid and/or abrasive cleaners. If these solvents and cleaners were used, the paint might be swelled or removed.
- Do not use strong organic solvents, such as MEK (Methyl Ethyl Ketone), MIBK (Methyl Iso-butyl Ketone), Triclene and paint thinner.
- Do not mix different cleaners. If cleaners needed to be mixed, please follow the manufacturer's instructions.
- Do not use abrasive pads such as wools or sandpapers for cleaning.
- Do not use sea water for cleaning

dualBOND FR-A2

TECHNICAL DATA SHEET

S.NO	PROPERTIES	STANDARD	UNIT	ALLOY SERIES:		
				AL -1100	AL-3105	AL-5005
				THICKNESS: 4mm		
1	Skin thickness	....	mm	0.5		
2	Weight	....	kg/m ²	8		
3	Standard Width	.....	mm	1,250		
4	Special width min quantity 2000sqm (incl 1000mm)	.....	mm	Upto 1500 max		
MECHANICAL PROPERTIES						
5	Section modulus(W)	DIN 53293	cm ³ /m	1.62	1.7	1.75
6	Rigidity (Poisson's ratio $\mu = 0,3$)	DIN 53294	KN cm ² /m	2300	2320	2400
7	Alloy	EN 573-3	.....	EN AW-1100	EN AW-3105	EN AW-5005A (Al mg/l)
8	Temper	EN 515	....	H16/H18	H14/H16	H22/H42
9	Modulus of Elasticity	EN 1999 1-1	N/mm ²	≥70000		
10	Tensile Strength of Aluminium	EN 485-2	N/mm ²	Rm ≥ 135	Rm ≥ 140	Rm ≥ 145
11	0.2% Proof Stress	EN 485-2	N/mm ²	R _{po} ≥ 85	R _{po} ≥ 90	R _{po} ≥ 95
12	Elongation	EN 485-2	%	A 50 ≥ 6	A 50 ≥ 5	A 50 ≥ 5
13	Linear Thermal Expansion	EN 1999 1-1	mm/m @100°C	2.4		
CORE PROPERTIES						
14	Core	EN 13501-1:2007+A1:2009 CLAUSE 8 & NFPA 285 /BS6853 UBC17-5	"CLASS- A2,S1,d0		Fire Rated Mineral Filled core	
15	Surface burning test	ASTM E84	Passed"		passed	
16	fire ehaiour	AS 1530 PART 3	.....		Passed	
17	Vertical transmission	ASTM E 108	.....		Passed	
18	Rate of burning	ASTM D 2015	.....		500 btu/lb	
SURFACE FINISH PROPERTIES						
19	Type/finish	.....	.....		PVDF / FEVE	
20	Gloss @60°c	ECCA T2	%		30-45 / 20-80	
21	Pencil hardness	ECCA T4	.....		min HB	
ACOUSTICAL PROPERTIES						
22	Sound absorbtion factor	ISO 354	....		0.05	
23	Sound transmission Loss (Rw)	ASTM E90	dB		STC: 27 OITC:22	
THERMAL PROPERTIES						
24	Thermal resistance R	ASTM C518	M2 K/W		0.003	
25	Temperature resistance		°C		_50...+80	




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 **dualBOND**
ALUMINUM COMPOSITE PANEL

 **dualCOAT**
COIL COATING SYSTEMS

 **dualTECH**
INDUSTRIAL PROFILES & SHEETS

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VITREOUS ENAMEL PANEL

 **dualCOMB**
HONEYCOMB PANEL

 **dualFAB**
METAL FABRICATING SYSTEMS

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