

NUO | TECHNICAL DATA SHEET

WITHOUT TREATMENT

Update: April 2021 // Subject to change and errors without notice

COMPOSITION

NUO is made from thin veneer sheets which are bonded to a textil backing with a formaldehyde-free adhesive. The composition is as follows, depending on the type of wood and further processing of the material: wood 28-40%, adhesive 15-22%, textile 40-50%.

CUSTOM CODE 44089015

DIMENSIONS AND WEIGHT

The thickness of the composite material is approximately 0.5-0.7 mm. The maximum possible length is 2800 mm, the maximum possible width is 1250 mm (gross dimension). The weight is $540 \pm 40 \text{ g/m}^2$ according to DIN EN 29073-1.

CLEANING AND WASHING



PHYSICAL PROPERTIES

Physical properties such as resistance to breakage and elongation or flexing depend on the material that is used in lamination to the veneer, while the resistance to surface aging depends on the type of top coat that is applied to the surface. The following tests were carried out on the untreated material with two backings (heavy cotton as first layer, light cotton as second layer). For the sectors which need higher surface resistance such as automotive, the veneer will be treated with specific products to comply with the standard.

Elongation (With heavy cotton backing)	∅ value length ∅ value cross	DIN EN ISO 17706	9,3 % 10,97 %
Elongation (With microfiber backing)	∅ value length ∅ value cross	DIN EN ISO 17706	70,27 % 105,17 %
Tear strength	∅ value length ∅ value cross	UNI EN 13571:2002	38 N 28 N
Tear strength (With microfiber backing)	∅ value length ∅ value cross	DIN EN ISO 17696	∅ 49 N ∅ 68 N
Martindale Abrasion resistance	12kPa	DIN EN 14465	>35.000 cycles Category B
Colour fastness to rubbing ¹	dry wet	EN ISO 105. X12	2-3 2-3
Adhesion of the coating	length cross	EN ISO 2409	quality 1
Bally flexing test	dry (150000 cycles) wet (20000 cycles)	UNI EN ISO 17694	no damage
Bally flexing test (With microfiber backing)	dry (300000 cycles) wet (200000 cycles)	UNI EN ISO 17694	no damage

Tensile strength	∅ value length ∅ value cross	UNI EN ISO 17706	21.2 N/mm 24.9 N/mm
Tensile strength (With heavy cotton backing)	∅ value length ∅ value cross	DIN EN ISO 17706	8,32 N/mm 2,25 N/mm
Tensile strength (With microfiber backing)	∅ value length ∅ value cross	DIN EN ISO 17706	7,52 N/mm 5,49 N/mm
Elongation	∅ value length ∅ value cross	DIN EN ISO 17706	16.9 % 17.9 %

¹ based on scales 1 to 5 / 5 = unchanged; 1 = major changes

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Media resistance ²	Acetone		0
	Caustic potash 10%		1
	Food vinegar 5%		0
	Ammonia 25%		0
	Water		0
	Mustard		2
	Ethanol 48%		0
	Coffee 3% (instant)		1
	Ajax 1:5	VW TL 226	0
	Nivea sun cream	(2018-04),	3
	Nivea cream	DIN EN ISO	3
	Coca Cola	4628-1 (2016-	0
	Lactic acid 10%	07)	0
	Super petrol		0
	Cider vinegar		0
	Brake fluid DOT4		2
	Engine oil 15W40		3
	Phosphoric acid 5%		0
Isopropanol		0	
Rapeseed oil		3	
Red wine		0	
Determination of distension and strength of surface	Ø thickness in mm	DIN EN ISO	1,22
	Ø elongation at burst in mm	3379 : 2015-	8,2
	Ø bursting force in N	12 / DIN EN ISO 17693	318

COLOUR AND STRUCTURE

As this is a natural product, the colour and texture may vary slightly per production charge/per log and/or per sheet. Small knots and other growth-related characteristics are not defects, but a sign of the authentic wood surface.

NOTE

Please note that the physical properties listed here do not apply to the NUO version with the backside fleece backing (NUO rigid).

² 0 = not changed, i.e. no noticeable change / 1 = very small / 2 = low / 3 = medium / 4 = strong

NUO | TECHNICAL DATA SHEET

WITH FIRE PROTECTION

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COMPOSITION

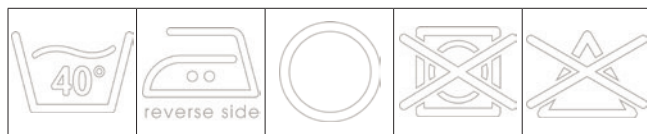
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DIMENSIONS AND WEIGHT

The thickness of the composite material is approximately 0.5-0.7 mm. The maximum possible length is 2800 mm, the maximum possible width is 1250 mm (gross dimension). The weight is $540 \pm 40 \text{ g/m}^2$ according to DIN EN 29073-1.

CLEANING AND WASHING



PHYSICAL PROPERTIES

Physical properties such as resistance to breakage and elongation or flexing depend on the material that is used in lamination to the veneer, while the resistance to surface aging depends on the type of top coat that is applied to the surface. The following tests were carried out on the material with two backings (heavy cotton as first layer, light cotton as second layer) and treated with fire protection. For the sectors which need higher surface resistance such as automotive, the veneer will be treated with specific products to comply with the standard.

Tensile strength	Ø value length Ø value cross	UNI EN 13522:2003	21.2 N/mm 24.9 N/mm
Tensile strength (With heavy cotton backing)	Ø value length Ø value cross	DIN EN ISO 17706	8,32 N/mm 2,25 N/mm
Tensile strength (With microfiber backing)	Ø value length Ø value cross	DIN EN ISO 17706	7,52 N/mm 5,49 N/mm

Elongation	Ø value length Ø value cross	UNI EN 13522:2003	16.9 % 17.9 %
Elongation (With heavy cotton backing)	Ø value length Ø value cross	DIN EN ISO 17706	9,3 % 10,97 %
Elongation (With microfiber backing)	Ø value length Ø value cross	DIN EN ISO 17706	70,27 % 105,17 %
Tear strength	Ø value length Ø value cross	UNI EN 13571:2002	38 N 28 N
Tear strength (With microfiber backing)	Ø value length Ø value cross	DIN EN ISO 17696	Ø 49 N Ø 68 N
Martindale Abrasion resistance	12kPa	DIN EN 14465	>35.000 cycles Category B
Colour fastness to rubbing ¹	dry wet	EN ISO 105. X12	2-3 2-3
Bally flexing test	dry (80000 cycles) wet (20000 cycles)	UNI EN ISO 17694:2016	no damage
Reaction to fire ²	Orienting preliminary test ² EN 1021 Part 1 and 2 Preliminary test according to DIN EN 13823 (fire class B1 according to EN 13501)		passed

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² official approval in progress

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WITH FIRE PROTECTION

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Determination of distension and strength of surface	Ø thickness in mm	DIN EN	1,22
	Ø elongation at burst in mm	ISO 3379 : 2015-12 /	8,2
	Ø bursting force in N	DIN EN ISO 17693	318

COLOUR AND STRUCTURE

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NOTE

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NUO | TECHNICAL DATA SHEET

WITH
VARNISH

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COMPOSITION

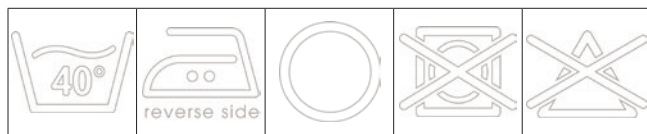
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DIMENSIONS AND WEIGHT

The thickness of the composite material is approximately 0.5-0.7 mm. The maximum possible length is 2800 mm, the maximum possible width is 1250 mm (gross dimension). The weight is 540 ± 40 g/m² according to DIN EN 29073-1.

CLEANING AND WASHING



PHYSICAL PROPERTIES

Physical properties such as resistance to breakage and elongation or flexing depend on the material that is used in lamination to the veneer, while the resistance to surface aging depends on the type of top coat that is applied to the surface. The following tests were carried out on the material with two backings (heavy cotton as first layer, light cotton as second layer) and with varnish. For the sectors which need higher surface resistance such as automotive, the veneer will be treated with specific products to comply with the standard.

Tensile strength	Ø value length Ø value cross	UNI EN 13522:2003	21.2 N/mm 24.9 N/mm
Tensile strength (With heavy cotton backing)	Ø value length Ø value cross	DIN EN ISO 17706	8,32 N/mm 2,25 N/mm
Tensile strength (With microfiber backing)	Ø value length Ø value cross	DIN EN ISO 17706	7,52 N/mm 5,49 N/mm

Elongation	Ø value length Ø value cross	UNI EN 13522:2003	16.9 % 17.9 %
Elongation (With heavy cotton backing)	Ø value length Ø value cross	DIN EN ISO 17706	9,3 % 10,97 %
Elongation (With microfiber backing)	Ø value length Ø value cross	DIN EN ISO 17706	70,27 % 105,17 %
Tear strength	Ø value length Ø value cross	UNI EN 13571:2002	38 N 28 N
Tear strength (With microfiber backing)	Ø value length Ø value cross	DIN EN ISO 17696	Ø 49 N Ø 68 N
Martindale Abrasion resistance	12kPa	DIN EN 14465	>50.000 cycles Category A (depending on the thickness of the varnish)
Martindale Abrasion resistance ¹	12kPa	DIN EN 14465	>20.000 cycles Category B (depending on the thickness of the varnish)
Adhesion of the coating	length cross	EN ISO 2409	quality 1
Colour fastness to rubbing (length and cross) ^{1,2}	dry wet	DIN EN ISO 105 X12	4 / 4 4 / 4 (colour change / staining index)
Colour fastness to rubbing leather ^{1,2}	dry wet sweat solution (pH8)	DIN EN ISO 11640	4-5 / 4 4-5 / 4-5 (colour change / staining index)
Wash fastness ^{1,2}	method A1S / 40°C	DIN EN ISO 105 C06	4 / 4-5 (colour change / staining index)

¹ tested on dyed and varnished material

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WITH
VARNISH

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Dry cleaning fastness ^{1 2}	perchloroethylene	DIN EN ISO 105 D01	4 / 4-5 (colour change / staining index)
Colour fastness to artificial light ^{1 3}	xenon arc fading lamp	UNI EN ISO 105-B02:2014	6
Bally flexing test ¹	dry (80000 cycles) wet (20000 cycles)	UNI EN ISO 17694:2016	no damage
Ageing condition ¹ (humidity 90% ± 5%; temperature 50°C ± 2°C; time 120 h ± 2 h)		UNI EN 2749:2001_ Mod.	no change in appearance
Media resistance ⁴	Acetone	VW TL 226 (2018-04), DIN EN ISO 4628-1 (2016-07)	0
	Caustic potash 10%		4
	Food vinegar 5%		0
	Ammonia 25%		1
	Water		0
	Mustard		2
	Ethanol 48%		0
	Coffee 3% (instant)		0
	Ajax 1:5		0
	Nivea sun cream		2
	Nivea cream		1
	Coca Cola		1
	Lactic acid 10%		0
	Super petrol		0
	Cider vinegar		0
	Brake fluid DOT4		0
	Engine oil 15W40		3
Phosphoric acid 5%	2		
Isopropanol	0		
Rapeseed oil	1		
Red wine	1		
Determination of distension and strength of surface	∅ thickness in mm ∅ elongation at burst in mm ∅ bursting force in N	DIN EN ISO 3379 : 2015-12/ DIN EN ISO 17693	1,22 8,2 318

COLOUR AND STRUCTURE

As this is a natural product, the colour and texture may vary slightly per production charge/per log and/or per sheet. Small knots and other growth-related characteristics are not defects, but a sign of the authentic wood surface.

NOTE

Please note that the physical properties listed here do not apply to the NUO version with the backside fleece backing (NUO rigid).

¹ tested on dyed and varnished material

² based on scales 1 to 5 / 5 = unchanged; 1 = major changes

³ based on scales 1 to 8 / 8 = excellent lightfastness; 1 = very poor lightfastness

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WITH VARNISH
AND WITH FIRE
PROTECTION

COMPOSITION

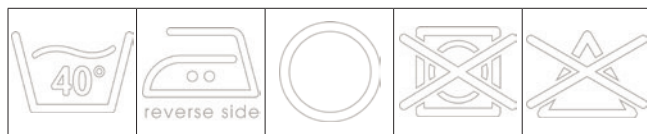
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Tensile strength	∅ value length ∅ value cross	UNI EN 13522:2003	21.2 N/mm 24.9 N/mm
Tensile strength (With heavy cotton backing)	∅ value length ∅ value cross	DIN EN ISO 17706	8,32 N/mm 2,25 N/mm
Tensile strength (With microfiber backing)	∅ value length ∅ value cross	DIN EN ISO 17706	7,52 N/mm 5,49 N/mm

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Martindale Abrasion resistance	12kPa	DIN EN 14465	>50.000 cycles Category A (depending on the thickness of the varnish)
Martindale Abrasion resistance ¹	12kPa	DIN EN 14465	>20.000 cycles Category B (depending on the thickness of the varnish)
Adhesion of the coating	length cross	EN ISO 2409	quality 1
Colour fastness to rubbing (length and cross) ¹²	dry wet	DIN EN ISO 105 X12	4 / 4 4 / 4 (colour change / staining index)
Colour fastness to rubbing leather ¹²	dry wet sweat solution (pH8)	DIN EN ISO 11640	4-5 / 4 4-5 / 4-5 4-5 / 4-5 (colour change / staining index)
Wash fastness ¹²	method A1S / 40°C	DIN EN ISO 105 C06	4 / 4-5 (colour change / staining index)
Dry cleaning fastness ¹²	perchloroethylene	DIN EN ISO 105 D01	4 / 4-5 (colour change / staining index)
Colour fastness to artificial light ¹³	xenon arc fading lamp	UNI EN ISO 105- B02:2014	6

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WITH VARNISH
AND WITH FIRE
PROTECTION

Bally flexing test ¹	dry (80000 cycles) wet (20000 cycles)	UNI EN ISO 17694:2016	no damage
Ageing condition ¹ (humidity 90% ± 5%; temperature 50°C ± 2°C; time 120 h ± 2 h)		UNI EN 2749:2001_ Mod.	no change in appearance
Reaction to fire ⁴		Orienting preliminary test ⁴ EN 1021 Part 1 and 2 Preliminary test according to DIN EN 13823 (fire class B1 according to EN 13501)	passed
Media resistance ⁵	Acetone Caustic potash 10% Food vinegar 5% Ammonia 25% Water Mustard Ethanol 48% Coffee 3% (instant) Ajax 1:5 Nivea sun cream Nivea cream Coca Cola Lactic acid 10% Super petrol Cider vinegar Brake fluid DOT4 Engine oil 15W40 Phosphoric acid 5% Isopropanol Rapeseed oil Red wine	VW TL 226 (2018-04), DIN EN ISO 4628-1 (2016-07)	0 4 0 1 0 2 0 0 0 0 2 1 1 0 0 0 0 0 3 2 0 1 1

Determination of distension and strength of surface	Ø thickness in mm Ø elongation at burst in mm Ø bursting force in N	DIN EN ISO 3379 : 2015-12/ DIN EN ISO 17693	1,22 8,2 318
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COLOUR AND STRUCTURE

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