

MATERIAL PROPERTIES DATA SHEET | SOLID

FENIX NTM[®] is an innovative material created for interior design by Arpa Industriale. It is produced by the simultaneous application of heat (approx. 150 °C) and high specific pressure (> 7 MPa) in order to have a homogeneous non-porous high density product. The core structure of FENIX NTM is composed of paper impregnated with thermosetting resins. Its external surface involves the use of nanotechnology and its colour is obtained through next generation acrylic resins cured by Electron Beam Process. FENIX NTM is a material which stands out for specific features such as: high resistance to scratches and to dry heat, anti-fingerprint, soft touchness, low light reflectivity, thermal healing of superficial microscratches, enhanced anti-bacterial properties. FENIX NTM is suitable for different interior design applications: kitchen, bathroom, furniture, healthcare, hospitality, office, transportation, elevators, doors.

				BLACK CORE	MATCHED CORE
PROPERTIES	TEST METHOD	PROPERTY OR ATTRIBUTE	UNIT	INDICATIVE VALUES	
SURFACE QUALITY					
Surface quality	EN 438-2:2016 cl.4	Spots, dirt and similar surface defects	mm ² /m ²	≤ 1	
		Fibres, hair and scratches	mm/m ²	≤ 10	
DIMENSIONAL TOLERANCES					
Dimensional tolerances	EN 438-2:2016 cl.5	Thickness tolerance	mm	10,0 ± 0,50 12,0 ± 0,60	10,0 ± 0,70 12,0 ± 0,80
	EN 438-2:2016 cl.6	Length and width	mm	+10/-0	
	EN 438-2:2016 cl.7	Straightness of edges	mm/m	≤ 1,5	
	EN 438-2:2016 cl.8	Squareness	mm/m	≤ 1,5	
	EN 438-2:2016 cl.9	Flatness (measured on full-size sheet)	mm/m	≤ 3	≤ 5
GENERAL PROPERTIES					
Resistance to surface wear	EN 438-2:2016 cl.10	Initial Point	Revolutions	200	
Resistance to immersion in boiling water	EN 438-2:2016 cl.12	Mass increase	%	2	3
		Thickness increase	%	2	3
		Appearance	Rating	5	
Resistance to water vapour	EN 438-2:2016 cl.14	Appearance	Rating	5	
Resistance to dry heat (180°C/20')	EN 438-2:2016 cl.16	Appearance	Rating	5	
Resistance to wet heat (100°)	EN 12721:1997	Appearance	Rating	5	
Dimensional stability at high temperatures	EN 438-2:2016 cl.17	Cumulative dimensional change	Longitudinal %	0,2	0,5
		Cumulative dimensional change	Transversal %	0,5	0,8
Resistance to impact with large diameter ball	EN 438-2:2016 cl.21	Drop height	mm	800	n.a.
		Indentation diameter	mm	8	
Resistance to cracking	EN 438-2:2016 cl.24	Appearance	Rating	4	5 surface 3 core
Resistance to scratching	EN 438-2:2016 cl.25	Appearance	Rating	5	
Resistance to staining	EN 438-2:2016 cl.26	Appearance - Group 1 and 2	Rating	5	
		Appearance - Group 3	Rating	4	
Light fastness (Xenon-arc)	EN 438-2:2016 cl.27	Contrast	Grey scale rating	4	4 surface 3 core
Resistance to cigarette burns	EN 438-2:2005 cl.30	Appearance	Rating	4	
Flexural Modulus	EN ISO 178	Stress	Mpa	9000	
Flexural strength	EN ISO 178	Stress	Mpa	110	
Surface specular reflectance	ISO 2813	Surface specular reflectance	Gloss unit	indicative values 0,2 at 20°, 1,5 at 60°, 10 at 85°	
Electrostatic property	EN 61340-4-1	Point to point resistance	Ω	1 x 10 ¹⁰ ÷ 1 x 10 ¹¹	
		Vertical resistance	Ω	1 x 10 ¹⁰ ÷ 1 x 10 ¹¹	
Resistance to microscratches	EN 438-2:2016 cl.30	Method A - gloss change mean value	%	5,2	
		Metodo B - surface visual assessment	Class	5	
Density	EN ISO 1183	Density	g/cm ³	1,4	

MATERIAL PROPERTIES DATA SHEET | SOLID

				BLACK CORE	MATCHED CORE
PROPERTIES	TEST METHOD	PROPERTY OR ATTRIBUTE	UNIT	INDICATIVE VALUES	
FIRE PERFORMANCES					
Reaction to fire	EN 13501	FENIX NTM thickness \geq 10 mm	Class	C s1, d0 (metal frame)	--
		FENIX NTM FR thickness 4 mm	Class	C s1, d0 (metal frame)	--
		FENIX NTM FR thickness \geq 10 mm	Class	B s1, d0 (metal frame)	--
OTHER PROPERTIES					
Acids resistance	SEFA 8-PL-2010 method 8.1	Chemical Spot Test	Passing/not passing	Passing	
Formaldehyde emission	EN 717 - 2	Gas analysis	mg/(m ² x h)	0,2 - 0,4	
	EN 13986	Formaldehyde emission rating	Rating	E1	
Hygiene	NSF	NSF/ANSI 35	Passing/not passing	Passing	
Volatile Organic Chemical Emissions	Greenguard Certification Low Chemical Emission UL 2818 according to EPA TO-17 e ASTM D 6196 EPA TO-11A e ASTM D 5197	Individual VOCs	TLV	\leq 0,1	
		Formaldehyde	ppm	\leq 0,025	
		Total VOCs	mg/m ³	\leq 0,25	
		Total Aldehydes	ppm	\leq 0,05	
		4-Phenylcyclohexene	mg/m ³	\leq 0,0033	
Contact with food Overall migration	EN 1186-3	3% acetic acid 24h at 40°C	mg/dm ²	$<$ 10	
	EN 1186-3	50% ethanol 24h at 40°C		$<$ 10	
	EN 1186-14	95% ethanol 24h at 40°C		$<$ 10	
	EN 1186-14	isooctane 24h at 40°C		$<$ 10	
Contact with food Formaldehyde specific migration	EN 13130-23	3% acetic acid 24h at 40°C	mg/kg	$<$ 15	
Evaluation of micro-organisms action	JIS Z 2801	Antimicrobial activity after 24h at 35°C	Bacterial viability: - Log reduction - Reduction %	$>$ 2,4 $>$ 99,9	

NOTE TO FENIX NTM PANELS WITH ADHESIVE PROTECTIVE FILM

The protective films are designed for temporary surface protection against dirt, scratches and tool marks; they are not designed for protection against corrosion, humidity or chemicals.

FENIX NTM panels covered with the protective film shall be stored in a clean, dry place at room temperature (15-22°C), avoiding weathering and UV exposure.

The protective film must be removed from the surface of FENIX NTM after the application and before putting into use the finite element. In any case, the removal must be made within six months from the date of shipment by Arpa Industriale. Arpa Industriale cannot be responsible for the misuse of FENIX NTM covered with the protective film, nor for the consequences for non-recommended applications.

DISCLAIMER

The Material Properties Data Sheets provide all the technical information relevant to the performance of the product as tested by Arpa Industriale or certified testing agencies. Arpa Industriale maintains the right to change the product composition and production process, and to modify the performance characteristics of the product. The company will update the related documentation when these changes take place. Before using the product, customers and end-users must check www.arpaindustriale.com or www.fenixntm.com for the most updated technical information regarding the products' performance. In any case, Arpa Industriale, in every contractual relationship, will refer only to the technical information published on its websites. Arpa Industriale will not assume any liability if the end-user or customer refer to any other technical information of the products.