OUTDOOR BUILDING MATERIALS

Co-extrusion WPC Decking

TECHNICAL DATA SHEET

NeoLine COMPOSITES

REVISION	ISSUE DATE	UNITS	STANDARDS
01	11 November 2026	SI	ASTM · EN · ISO

1 CERTIFICATIONS

NO.	CERTIFICATION	STATUS
1	**CE Certification**	Passed
2	**FSC 100%**	Available on request
3	**Green Label**	Passed
4	**ISO 9001**	Passed

2 TECHNICAL DATA

NO.	PROPERTY	TEST METHOD	TEST RESULT	UNIT
1	**Density**	ASTM D6111-19a	ρ = 1.326 at 23 °C	g/cm³
2	**Material Composition**	—	Natural fibre 65% Recycled PE plastic 30% Additives 5%	—
3	**Fire Performance** Regular formula	EN 13501-1:2018 EN ISO 9239-1 / 11925-2; 23 mm, 21.6 kg/m² board	Cfl–s1 Critical flux 6.86 kW/m² · Smoke 63.9 %×min	—
4	**Fire Performance** At special request	EN 13501-1:2018 EN ISO 9239-1 / 11925-2; 21 mm, 29.2 kg/m² board	Bfl–s1 Critical flux 8.16 kW/m² · Smoke 137.2 %×min	—
5	**Fire Performance** At special request · ASTM E84	ASTM E84-23 flame spread & smoke density; 22.2 mm board	Class A FSI 25 · SDI 250	—
6	**Formaldehyde Release**	EN 717-1:2004 limit ≤ 0.124 mg/m³	< 0.02	mg/m³
7	**Heavy Metal Content**	EN 16711-2:2015	Not detected	—
8	**VOC & TVOC**	ISO 16000-9:2006	Not detected	—
9	**Creep Recovery**	ASTM D7032 Section 5.4	82.66	%
10	**Heat Deflection Temperature**	ASTM D648	≥ 100	°C
11	**Mould Resistance**	ASTM F609	First grade	—
12	**Coefficient of Linear Thermal Expansion**	ISO 11359-2:1999 −20 °C to +80 °C, longitudinal	30.2×10^{-6}	K^{-1}
13	**Water Absorption**	ASTM D1037-12 Section 23, Method B; 24 h	0.48	%

2 TECHNICAL DATA continued

NO.	PROPERTY	TEST METHOD	TEST RESULT	UNIT
14	**Impact Resistance**	ASTM D4495-16 2.5 in, 10 lb falling weight	h = 950 Mean failure height	mm
15	**Oxidative Induction Time (OIT)**	ASTM D3895-19	10.5	min
16	**Flexural Strength**	ASTM D790-17 400 mm span, 5 mm/min	27.89	MPa
17	**Modulus of Elasticity in Flexure**	ASTM D790-17 400 mm span, 5 mm/min	4,604	MPa
18	**Freeze–Thaw Resistance**	ASTM D7031-11 Section 5.20; 350 mm span	Bending: σm = 28.80 Modulus: E = 4,410	MPa
19	**Abrasion Resistance**	ASTM D4060-14 CS-17 wheel, 1 kg, 5,000 cycles	29.55	mg/1,000 rev
20	**Durometer Hardness**	ASTM D2240-15 Type D	69.1 (average)	—
21	**Deflection Temperature under Flexural Load**	ASTM D648-18 Method B; edgewise, 0.455 MPa	122	°C
22	**Compressive Strength, parallel to L**	ASTM D7031-11 §5.7 with ASTM D4761-19 §10	σc = 31.11 (average)	MPa
23	**Shear Strength**	ASTM D732-17	σs = 22.26 (average)	MPa
24	**Tensile Strength, parallel to L**	ASTM D7031-11 §5.6 with ASTM D4761-19 §9	σt = 18.40 (average)	MPa
25	**Slip Resistance**	DIN 51130:2014 oil-wet inclining platform	R10 α_{ges} = 13.7°	—
26	**Resistance to Artificial Weathering**	ASTM G154-23 / ISO 105-A02:1993 UVA-340 lamp, 0.89 W/(m²·nm) at 340 nm, up to 3,000 h	Grey scale 4–5 at 3,000 h See Tables 2 and 3	—

TABLE 2 COLOUR FASTNESS DURING ARTIFICIAL WEATHERING — 2,000 H SERIES

Exposure period	Grade of colour fastness (grey scale)	Colour difference
500 h	4.5	ΔE = 2.30
1,000 h	4.5	ΔE = 2.82
1,300 h	4.5	ΔE = 2.98
1,600 h	4.5	ΔE = 3.02
2,000 h	4.5	ΔE = 3.04

Colour change is assessed against the grey scale of ISO 105-A02:1993 and measured with a spectrophotometer. Exposure is carried out under a UVA-340 lamp at a typical irradiance of 0.89 W/(m²·nm) at 340 nm, for a total of 2,000 hours.

TABLE 3 UV AGEING OVER 3,000 H — THIRD-PARTY REPORT

Exposure duration	Grey scale	ΔE*ab, specimen #1	ΔE*ab, specimen #2
1,000 h	4–5	0.47	0.10
2,000 h	4–5	1.35	1.29
3,000 h	4–5	1.37	1.36

Method ASTM G154-23 Cycle 1, ISO 105-A02:1993/Cor.2:2005. UVA-340; 8 h UV at (60±3) °C BPT and 0.89 W/(m²·nm) at 340 nm; 4 h condensation at (50±3) °C BPT; 3,000 h total.

Source SGS-CSTC Shunde Branch, report No. SDHL2311020050HI, 10 April 2024; sample as submitted: WPC decking. Grey scale under D65; ΔE*ab with sphere spectrophotometer, D65, 10° observer. Not directly comparable with Table 2.

NOTES

1. All values are typical results obtained from laboratory testing of production samples and are reported in SI units. Values are given for reference and do not constitute a specification limit unless separately agreed in writing.

2. Mechanical properties are measured on test specimens conditioned to equilibrium; strength values are averages of the tested population.

3. In-service performance depends on profile selection, span and fixing design, substrate and site conditions. Installation shall follow the current installation guide.

4. Fire classes refer to the build-ups tested: Cfl–s1 on a 23 mm board (21.6 kg/m²) and Bfl–s1 on a 21 mm board (29.2 kg/m²), both on an A1/A2 substrate with mechanical fixing and joints; ASTM E84 Class A on a 22.2 mm board. Bfl–s1 and Class A apply to the flame-retardant formulation only, supplied at special request.