OUTDOOR BUILDING MATERIALS

Co-Extrusion Wood Composite Siding

TECHNICAL DATA SHEET

NeoLine COMPOSITES

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

1 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 13823 / EN ISO 11925-2; 52 mm, 690 kg/m³, free standing	D–s2, d0 $FIGRA_{0.2MJ}$ 289.0 W/s · THR_{600s} 39.7 MJ SMOGRA 12.6 m²/s² · TSP_{600s} 123.3 m²	—
4	**Fire Performance** At special request	CAN/ULC-S102:2018+R1:2019 flame-retardant formulation	FRS 15; SDC 60	—
5	**Formaldehyde Release**	EN 717-1:2004	Passed	—
6	**Heavy Metal Content**	EN 16711-2:2015	Not detected	—
7	**VOC & TVOC**	ISO 16000-9:2006	Not detected	—
8	**Creep Recovery**	ASTM D7032 Section 5.4	82.66	%
9	**Heat Deflection Temperature**	ASTM D648	≥ 100	°C
10	**Mould Resistance**	ASTM F609	First grade	—
11	**Coefficient of Linear Thermal Expansion**	ISO 11359-2:1999 −20 °C to +80 °C, longitudinal	30.2×10^{-6}	K^{-1}
12	**Water Absorption**	ASTM D1037-12 Section 23, Method B; 24 h	0.0048	%
13	**Impact Resistance**	ASTM D4495-16	h = 950 Mean failure height	mm
14	**Oxidative Induction Time (OIT)**	ASTM D3895-19	10.5	min
15	**Freeze–Thaw Resistance**	ASTM D7031-11 Section 5.20; 350 mm span	Bending: σ_m = 28.80 Modulus: E = 4,410	MPa
16	**Abrasion Resistance**	ASTM D4060-14	29.55	mg/1,000 rev
17	**Durometer Hardness**	ASTM D2240-15	H = 69.1, average	—
18	**Deflection Temperature under Flexural Load**	ASTM D648-18 Method B, edgewise position	122	°C
19	**Compressive Strength, parallel to L**	ASTM D7031-11 §5.7 with ASTM D4761-19 §10	σ_c = 31.11, average	MPa
20	**Shear Strength**	ASTM D732-17	σ_s = 22.26, average	MPa

1 TECHNICAL DATA continued

NO.	PROPERTY	TEST METHOD	TEST RESULT	UNIT
21	**Tensile Strength, parallel to L**	ASTM D7031-11 §5.6 with ASTM D4761-19 §9	σ_t = 18.40, average	MPa
22	**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. The D–s2, d0 classification applies to the regular formula in the tested build-up (52 mm, 690 kg/m³, free standing, no substrate); the flame-retardant formulation offered at special request is not covered.