CNCGLASS

Brand: CNCGLASS

Company: CNC Ucolin Interlayer Technology Co., Ltd.

Address: SHENZHEN, GD, CHINA

Peter Lin | cnc@cncGlass.com | WhatsApp/Mobile +86 15013829504 | WeChat wecan365 | www.cncglass.com

TECHNICAL NOTE

Comparing Tensile Strength of CNCGLASS EVA Interlayer Film

By Peter Lin

CNCGLASS · 1. Purpose and Scope

This technical note records an internal comparative tensile test of CNCGLASS EVA interlayer film — product EVAFORCE® EXTREME — against an unnamed internationally marketed Super Clear comparator film. Tester: Peter Lin. Test date: May 26, 2014. Brand for this note is CNCGLASS (CNC Ucolin Interlayer Technology Co., Ltd.); EVAFORCE® EXTREME is the product name under that brand.

CNCGLASS · 2. Test Conditions

Conditions retained from the source record (black numbers):

- **Tester:** Peter Lin
- **Test date:** May 26, 2014
- **Crosshead / tensile speed: 300 mm/min** (kept as stated).
- **Lamination cycle (stated for specimens): 85 °C · 15 min** then **130 °C · 40 min** (85°–15′ / 130°–40′).
- **Samples:** unnamed “famous international supplier” Super Clear EVA film (9 specimens); CNCGLASS EVAFORCE® EXTREME EVA interlayer film (9 specimens).
- **Recorded metrics:** Max force (N), Tensile strength (MPa), Elongation (%), Young’s modulus (MPa).

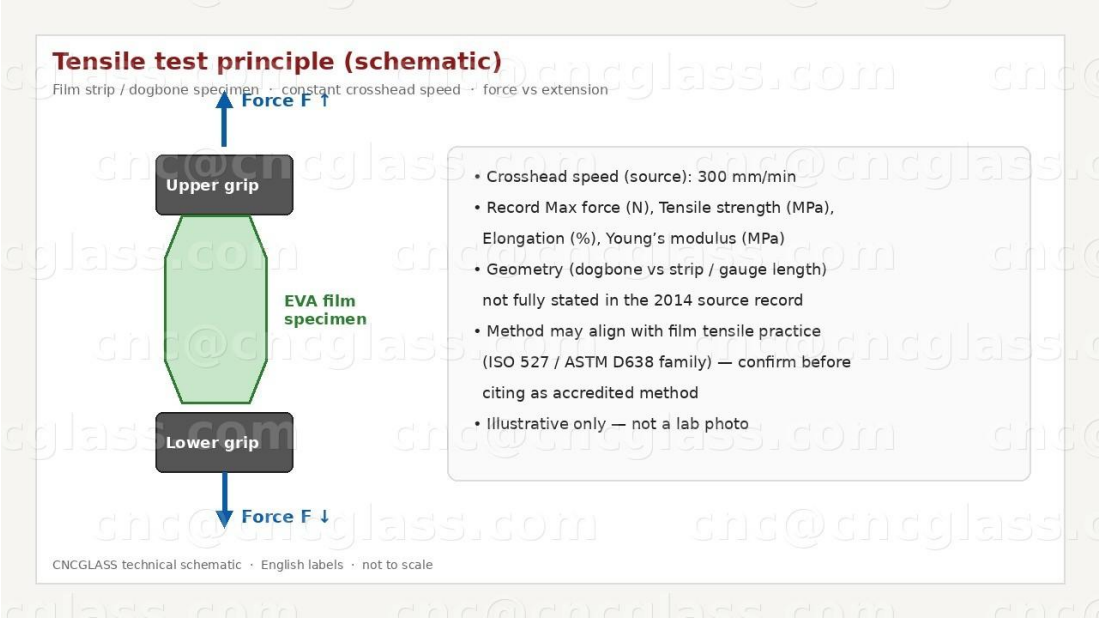

Figure 1 — Tensile-test principle: grips, film strip / dogbone specimen, force direction (schematic; geometry as illustrated only).

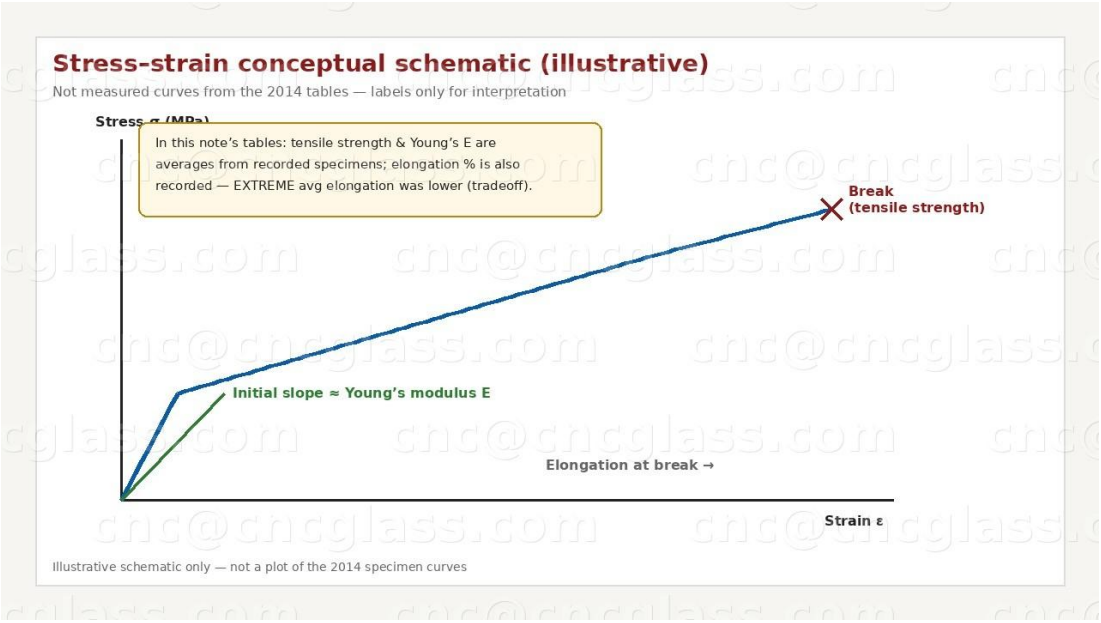

Figure 2 — Stress–strain conceptual schematic (illustrative — not a plot of the 2014 specimen curves).

Industry context (brief, method-dependent): public crosslinked EVA interlayer TDS often cite tensile strength on the order of about ≥18–20 MPa with high elongation (hundreds of percent), under their stated methods (e.g. ISO 527 / ASTM D412 / D638 families). Young's modulus for soft EVA films is typically low and highly rate- and temperature-dependent — literature / TDS figures vary widely and must not be used to rewrite the 2014 table numbers, and this note does not invent CNCGLASS certified TDS values.

CNCGLASS · 3. Results — Unnamed Supplier Super Clear Film

Nine specimens. Table values below are historical recorded data (Max N; Tensile strength MPa; Elongation %; Young's modulus MPa).

No.	Max (N)	Tensile Strength (MPa)	Elongation (%)	Young's modulus (MPa)
1	78.934	18.794	633.768	1.337
2	62.488	15.622	664.459	1.060
3	69.637	16.580	639.186	1.207
4	55.525	13.543	584.743	0.991
5	64.980	15.471	610.706	1.124
6	65.921	16.078	610.949	1.177
7	62.449	14.193	607.018	1.001
8	61.194	14.570	622.803	1.014
9	55.506	13.538	592.248	0.983
Max.	78.934	18.794	664.459	1.337
Min.	55.506	13.538	584.743	0.983
Average	64.070	15.377	618.431	1.099

Supplier averages: Max 64.070 N; Tensile strength 15.377 MPa; Elongation 618.431 %; Young's modulus 1.099 MPa.

CNCGLASS · 4. Results — EVAFORCE® EXTREME

Nine specimens under the same stated speed and lamination cycle. Table values below are historical recorded data.

No.	Max (N)	Tensile Strength (MPa)	Elongation (%)	Young's modulus (MPa)
1	78.895	19.243	528.706	1.553
2	66.264	16.162	519.201	1.337
3	85.044	21.261	554.858	1.630
4	71.030	17.324	534.723	1.371
5	68.706	16.757	533.400	1.324
6	66.205	16.148	482.024	1.464

7	76.561	18.673	543.838	1.457
8	68.382	16.281	484.427	1.471
9	89.015	21.711	565.189	1.642
Max.	89.015	21.711	565.189	1.642
Min.	66.205	16.148	482.024	1.324
Average	74.456	18.173	527.374	1.472

EVAFORCE® EXTREME averages: Max 74.456 N; Tensile strength 18.173 MPa; Elongation 527.374 %; Young's modulus 1.472 MPa.

CNCGLASS · 5. Summary of Averages

Metric	Unnamed supplier avg	EVAFORCE® EXTREME avg
Max force (N)	64.070	74.456
Tensile strength (MPa)	15.377	18.173
Elongation (%)	618.431	527.374
Young's modulus (MPa)	1.099	1.472

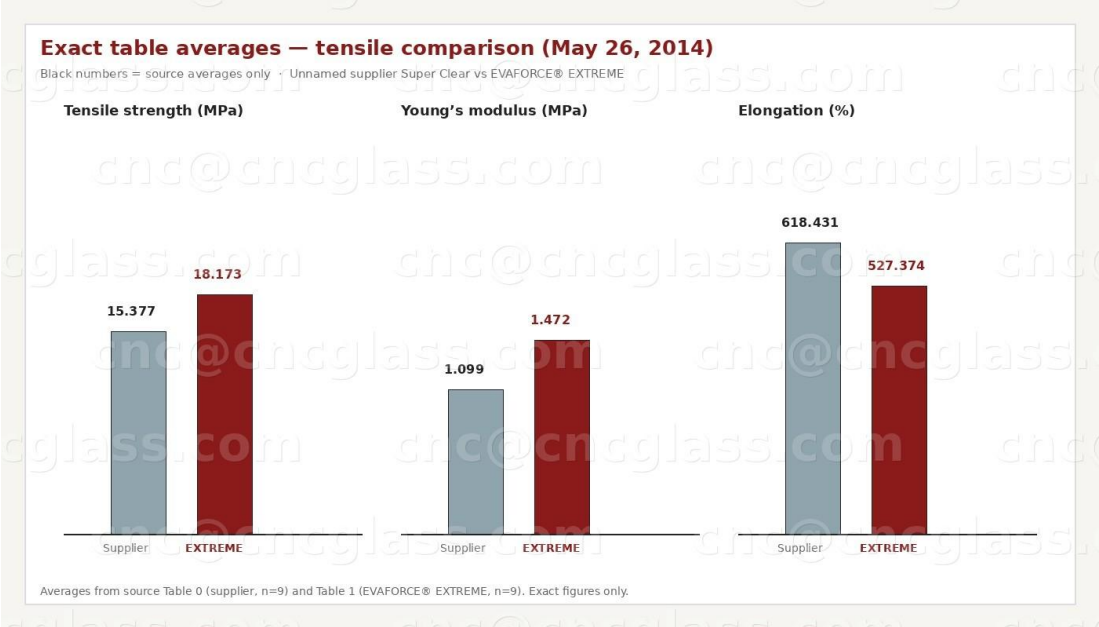

Figure 3 — Chart of exact table averages: tensile strength (MPa), Young's modulus (MPa), elongation (%) — source averages only.

CNCGLASS · 6. Interpretation

Under these 2014 internal conditions (300 mm/min; 85 °C–15' / 130 °C–40'), EVAFORCE® EXTREME averaged higher tensile strength (18.173 vs 15.377 MPa) and higher Young's modulus (1.472 vs 1.099 MPa) than the unnamed Super Clear comparator. Average Max force was also higher (74.456 vs 64.070 N).

CNCGLASS · 7. Limits

Limits: single-day internal comparison (2014); unnamed comparator; specimen geometry and exact tensile standard (ISO 527 vs ASTM family) not fully stated; results are not a substitute for project qualification, third-party accreditation, or current grade Technical Data Sheet (TDS) claims.

Figure 4 — Application: architectural laminated-glass façade / partition.

Figure 5 — Application: curved glass / outdoor safety laminate scene.

For contractual tensile / mechanical performance, follow the current CNCGLASS grade TDS and agreed specimen method, or contact the team below. This overview may be updated when new internal or third-party data are released.

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WhatsApp / WeChat / Mobile: +86 15013829504 · WeChat: wecan365
Website: www.cncglass.com