

UMG WOOD

Our Products, Elevated by FUKUVI's Innovation.

Inspired by Nature, Built for the Future

**ASA × Wood — crafted by nature,
refined by Japanese craftsmanship.**

This material reflects decades of craftsmanship and technical expertise, refined by generations of Japanese know-how. Combining the natural warmth of wood flour with the durability of ASA, it offers both beauty and performance.



We named it UMG WOOD

Product Features

► **Naturalness, Warm Wood Touch**

Through refined finishing techniques, the natural warmth and wood texture are enhanced, bringing a sense of naturalness and elegance to the product's overall look and feel.

► **Co-Extrusion Enables a Self-Extinguishing Core**

Unlike olefin-based materials, ASA allows direct co-extrusion with PVC. This makes it possible to incorporate a self-extinguishing PVC core for enhanced fire safety.

Property	Test Method	Unit	Standard Type	Flame-Retardant Type
			W310A	W310E
Tensile Strength	ISO 527	MPa	32	47
Flexural Strength	ISO 178	MPa	59	74
Flexural Modulus	ISO 178	MPa	2600	3200
Charpy Impact	ISO 179	kJ/m2	3	3
Rockwell Hardness	ISO 2039	R	92	105
Melt Volume Rate	ISO 1133	g/10 min.	22	19
Temperature of Deflection	ISO 75	Degrees C	79	81
Density	ISO 1183	-	1.08	1.18

A uniquely smooth touch, — Only ASA can offer it.

Why Does ASA Feel Different the Moment You Touch It?

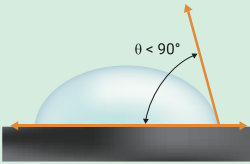
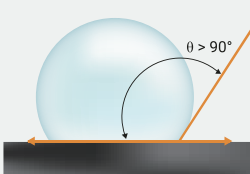
Moderate Hydrophilicity

ASA resin contains polar groups from acrylonitrile, giving it moderate hydrophilicity and good compatibility with sweat and sebum. This skin-like property results in natural friction and smoothness upon contact, providing a comfortable tactile experience.

Thermal conductivity

ASA resin has a lower thermal conductivity (approx. 0.18 W/m·K) than PE (approx. 0.42 W/m·K) due to its amorphous structure, which inhibits heat transfer. This makes it ideal for applications where thermal insulation or reduced heat buildup is important.

Surface Characteristics Comparison Table

Material	Contact angle image	Wettability	Thermal conductivity (W/m·K)	Tactile Impression
ASA		Moderately hydrophilic	0.18	<ul style="list-style-type: none">• Smooth with a slight moist feel• Skin-like and warmth feel
PE		Hydrophobic	0.42	<ul style="list-style-type: none">• Very smooth and dry• Cool and inorganic feel

ASA delivers a luxurious, smooth, and slightly moist texture
—Never too slick, never sticky — Just right.

The More Texture You Give, The More Character It Gains.

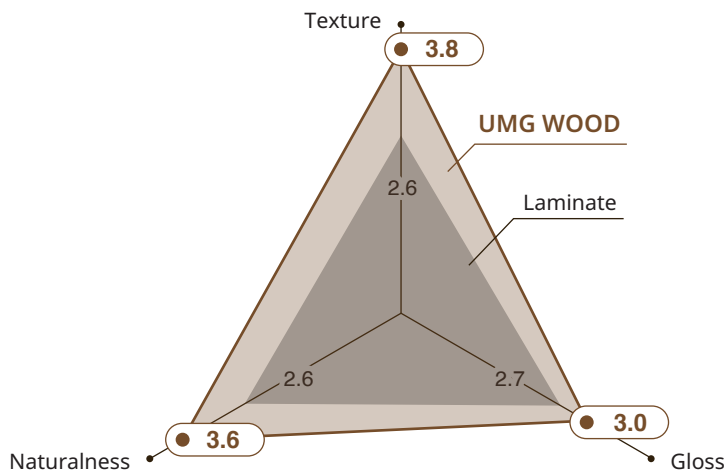
*The following pages present data obtained from UMG WOOD that has been textured by FUKUVI, one of our partner companies. Texturing enhances the unique tactile qualities that define UMG WOOD.

*Please note that Techno-UMG does not provide texturing services. This process must be performed by extruders equipped with the appropriate texturing facilities.

*The data on the "Weatherability" page was obtained using pigments independently sourced and applied by FUKUVI. The values represent example measurement results and are not guaranteed values.

Product Feedback Data

Based on feedback from 44 participants, our product has been highly rated for its **natural texture** and **authentic appearance**. *1



“ UMG WOOD is comfortably very smooth given the wood texture.

“ Doesn't have the fake sheen of laminate.

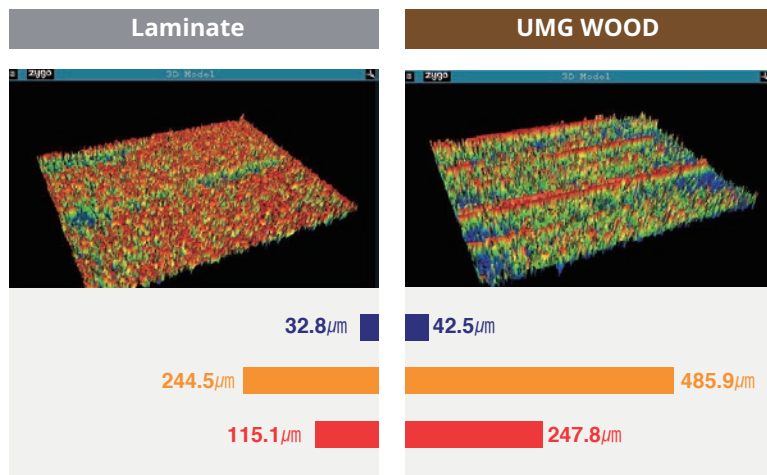
“ Feels more natural to the touch than the other similar products.

“ Look and feel is so much nicer than wood laminates commonly seen.

“ Feels and looks like a great alternative to natural wood.

Appearance

01 Surface Texture



Deeper Texture. Richer Feel

- Ra (Roughness Average)**
The average height of surface irregularities.
- PV (Peak-to-Valley Height)**
The maximum distance between the highest peak and the lowest valley in the measured area.
- Rz (Average Maximum Height of the Profile)**
The average difference between the highest peak and the lowest valley within several sampling lengths.

UMG WOOD has larger values for Ra, PV, and Rz compared to Laminate. This means UMG WOOD has a more pronounced surface texture with greater unevenness. This finely crafted texture delivers a remarkably realistic wood look and feel, adding both warmth and sophistication to any space. *2

02 Gloss

Low gloss. High authenticity.

Gloss testing showed UMG WOOD at just 1.7, while Laminate A and B measured much higher at 15.3 and 21.6 — proof of its wood like appearance.

	UMG WOOD	Laminate A	Laminate B
GLOSS	1.7	15.3	21.6

*3

Practicality

01 Flame Retardancy

Flame Retardancy Comparison

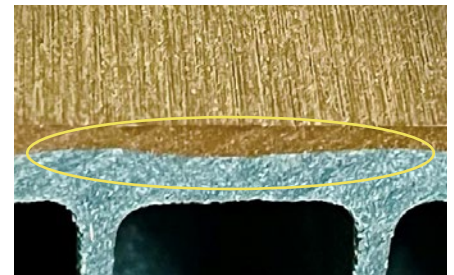
Category	PE (Non-FR) + Wood	UMG WOOD / PVC Co-extrusion
Flame-retardant extruded profiles	Poor	Good-Excellent *4
Oxygen index of the core layer resin	17.4% (PE)	45-49%(PVC)
Flame Retardant Mechanism	None or lower (Inherently flammable resin)	Inherent flame retardancy from PVC core

UMG WOOD / PVC co-extrusion uses a PVC core layer that inherently provides flame retardancy, as indicated by its high oxygen index. Materials with an oxygen index above 21%—the oxygen level in air—are considered self-extinguishing, meaning that PVC is less flammable than PE.

02 Peel Resistance

Durability That Sticks. That's the UMG WOOD Difference.

The seamless structure achieved through co-extrusion of ASA and PVC provides excellent adhesion as well as superior moisture and heat resistance, significantly reducing common issues such as peeling and bubbling found in conventional laminated products.



03 Water Proof

Proven to Have Exceptionally Low Water Absorption.

While UMG WOOD exhibited a remarkably low water absorption rate of just 0.54%, traditional materials such as Basswood (42.17%) and MDF (89.09%) showed significantly higher rates. This highlights UMG WOOD's superior dimensional stability and durability in moisture-prone environments.



Water absorption rate

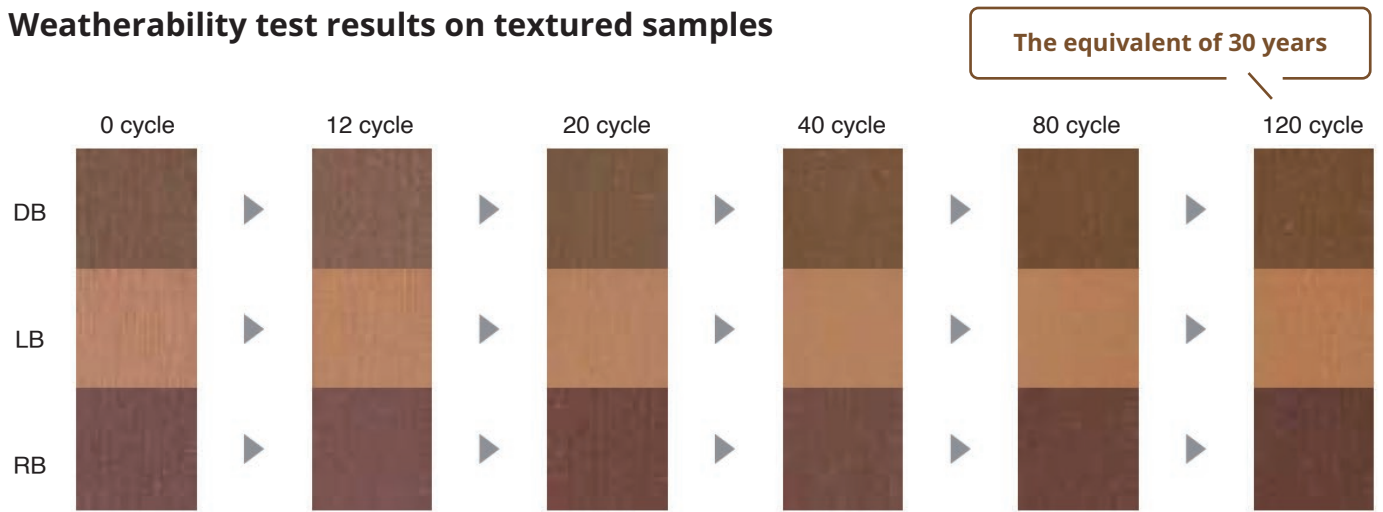
Unit : %

	Test Method	UMG WOOD	Basswood	MDF
Test Standard	JIS K 7209	0.54	42.17	89.09

*5

Weatherability

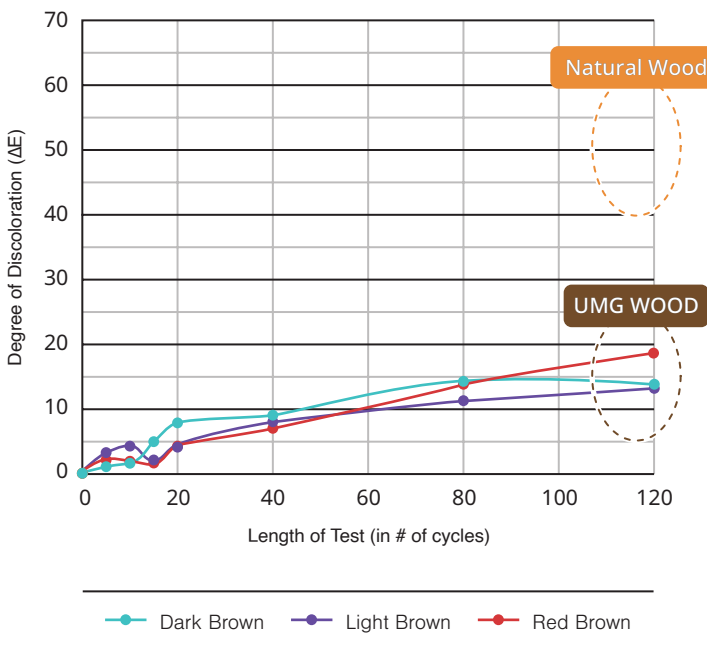
Weatherability test results on textured samples



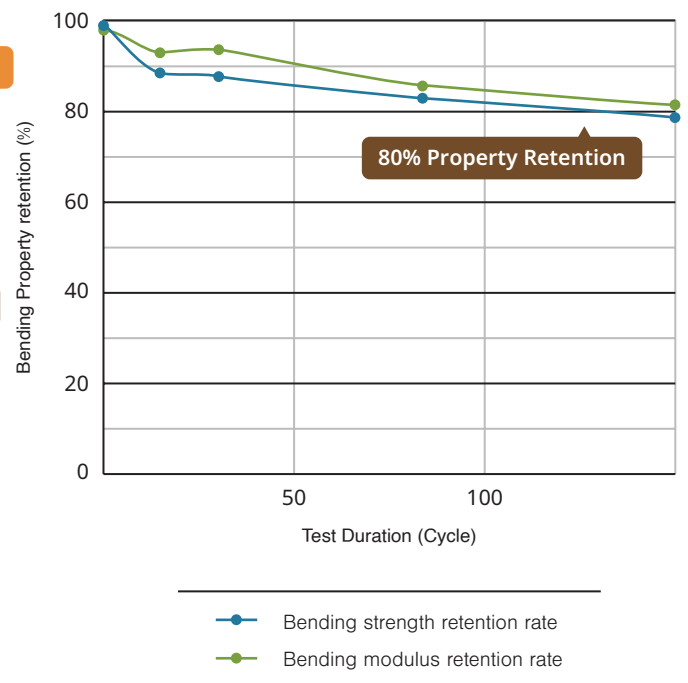
Metal Weathering Testing
4 Test Cycles = 1 Year of Outdoor Exposure

It is highly resistant to cracking and demonstrates exceptional durability, showing minimal discoloration even after the equivalent of **30 years** of rigorous Metal Weathering testing. *6

Discoloration of Textured Samples After Weatherability Testing *7



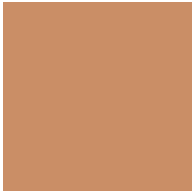
Change in mechanical strength after weathering test



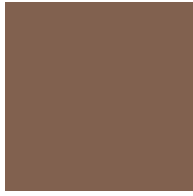
Our material demonstrates outstanding weathering resistance, with ΔE values of just 14–18 after metal weathering tests. In contrast, natural wood typically shows a ΔE of 40–60, making color fading far more noticeable. Not only does it resist long-term color change, but it also maintains about 80% of its initial strength — ensuring reliable mechanical performance.

Multiple color options available

Discover our selection of standard colors to mimic popular wood types or explore made to order and custom colors to create unique design accents in white, black, gray, and more!



LB



DB



RB



GY (Made-to-order color)



BK (Made-to-order color)

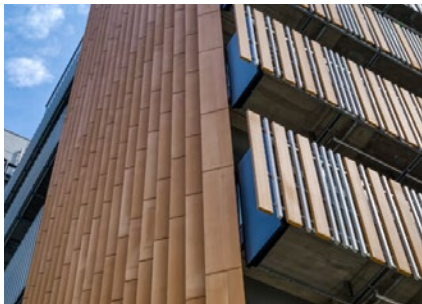


WH (Made-to-order color)

Use Cases

UMG WOOD is used for both decorative and functional outdoor applications in Japan. From privacy fencing to stylish decking, UMG WOOD adapts beautifully to various outdoor design needs. Bring a naturalistic touch to your next project!

Louver



Fence



Deck



NOTES

*1

Survey Outline	
Target Audience	44 general consumers aged 20-60
Survey Period	April - June, 2025
Survey Method	In-person survey

*2

Optical Profilometry Testing Methodology	
Equipment Used	Zygo NewView 6200 scanning white light interferometer
Method	A single scan per sample using a 5x objective and 0.5x magnifier collar
Scanning Area	Approximately 2 mm x 3 mm

*3

These results were obtained using a basic gloss meter. The device works by projecting light onto a surface and measuring the amount of light reflected back. The higher the value, the more light is reflected.

Ra, Rz, and PV values are important indicators for evaluating surface roughness and are widely used across various industries, including manufacturing, automotive, aerospace, and medical devices.

*4

The flame retardancy of the product may decrease depending on the thickness of the surface layer.

*5

Test Standard

Compliant with JIS K 7209, Method A

Test Method A

The test specimen was pre-dried at 50 °C for 24 hours, then cooled in a desiccator (23 ± 2 °C, 50 ± 5% RH), followed by a weight measurement. After that, it was immersed in ultrapure water for 24 hours, surface moisture was wiped off, and the weight was measured again. (For steps ①, ②, and ③, each measurement was taken after leaving the specimen for 1.5 hours.)

*6

The examples produced by this testing are not a guarantee of material characteristics. In actual outdoor usage, differences in region and climate will impact the effects of weathering on each material. They are not any related to any specific JIS or ISO qualifications. Print settings may make these images appear different from actual samples.

*7

Testing Condition	
Testing Method	Metal Weathering
Exposure Cycle	4 hours of light exposure (53°C, 50% relative humidity) 4 hours in the dark (30°C, 98% relative humidity)
Cycle Duration	8 hours per full cycle
Total Cycles	120 cycles
Equivalent Exposure Duration	Approximately 1 year of outdoor exposure (every 4 cycles correspond to 1 year of environmental conditions)

FUKUVI USA, INC.

7631 Progress Ct, Huber Heights, Ohio 45424

TEL +1-937-236-7288

Official Site

<https://www.fukuvi-usa.com/>



Techno-UMG America, Inc.

10260 Alliance Rd Blue Ash, Ohio 45242

TEL +1-513-248-2033

FAX +1-513-248-2033

Official Site

<https://www.t-umg.com/>

