

REAL DECO

2022-2025 vol.7



REAL DECO
Non-combustible decorative wallcovering

HARDEC
Decorative films with adhesive



REAL DECO

Material	WRA8001 to WRA8060
Premium Wood	WRW8201 to WRW8224
Weather resistant type	WRW8225 to WRW8230
Antiviral type	WRW8231 to WRW8241
Rustic Wood	WRW8242 to WRW8251
Japanese Wood	WRW8252 to WRW8263
Standard Wood	WRW8264 to WRW8370





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J o b r e f e r e n c e s |

TOLI REAL DECO and HARDEC are adopted at various areas. The photos show many job references where those are installed on walls and/or ceilings.



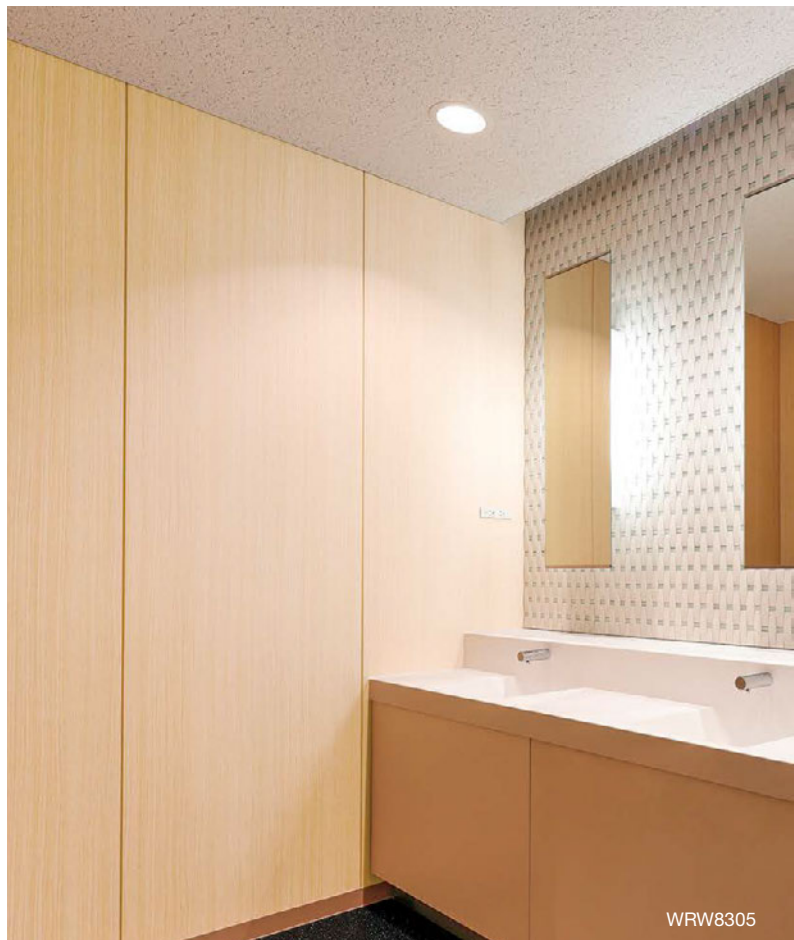
Meijo University, Tempaku Campus



WRW8305



WRW8305

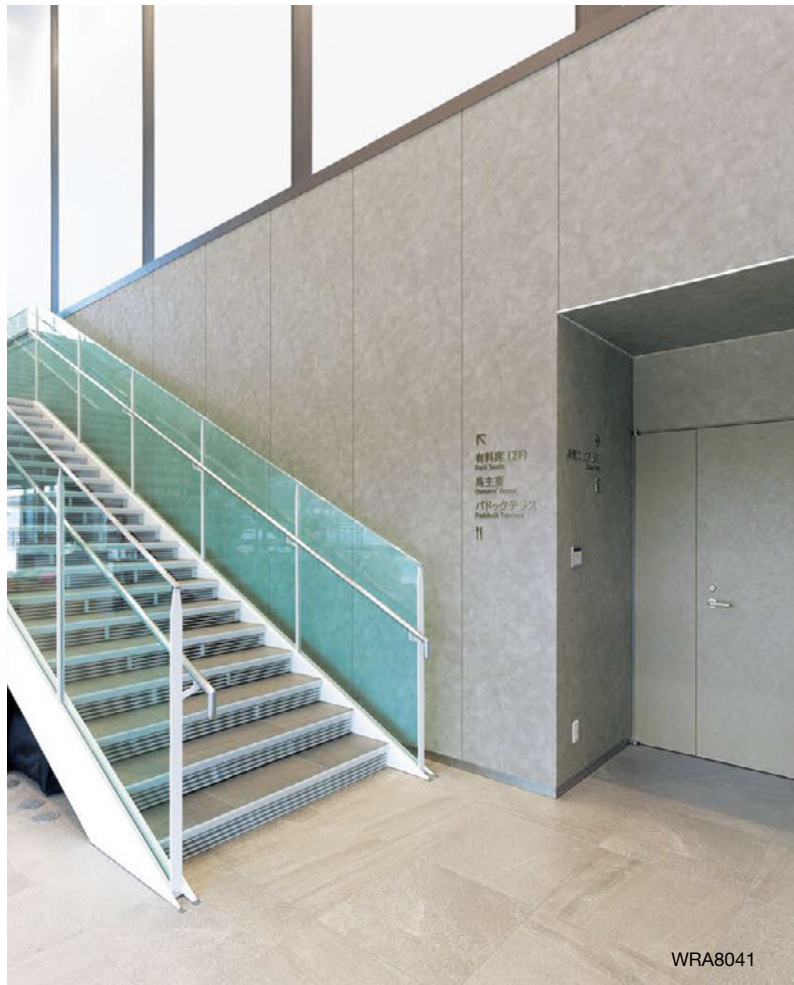


WRW8305





WRA8041



WRA8041



WRW8352

Yonaha Okanou Hospital



Yokohama-Higashiguchi Kidney Clinic



WRA8055



WRA8052



WRA8052



WRA8052

A-position Office



WRA8019



WRA8019



WRA8020

Miraito Kansai Branch



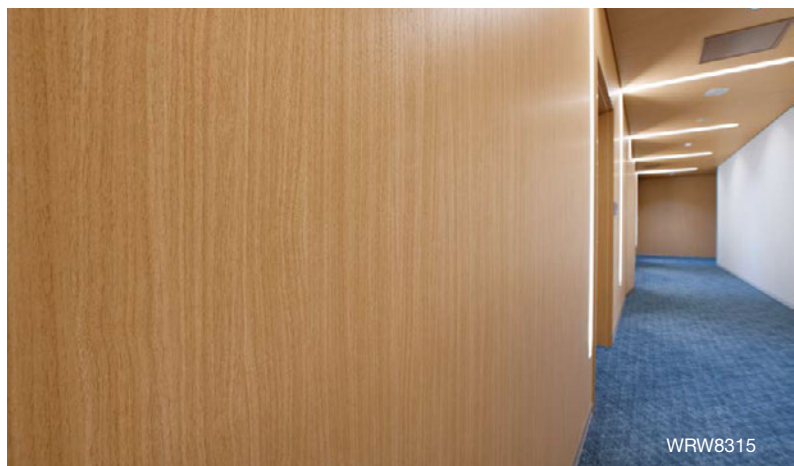
WRW8315 (Wall, Ceiling) · DEC8315 (Door) · WRW8369 (Ceiling)



WRW8315 (Wall, Ceiling) · DEC8315 (Door)

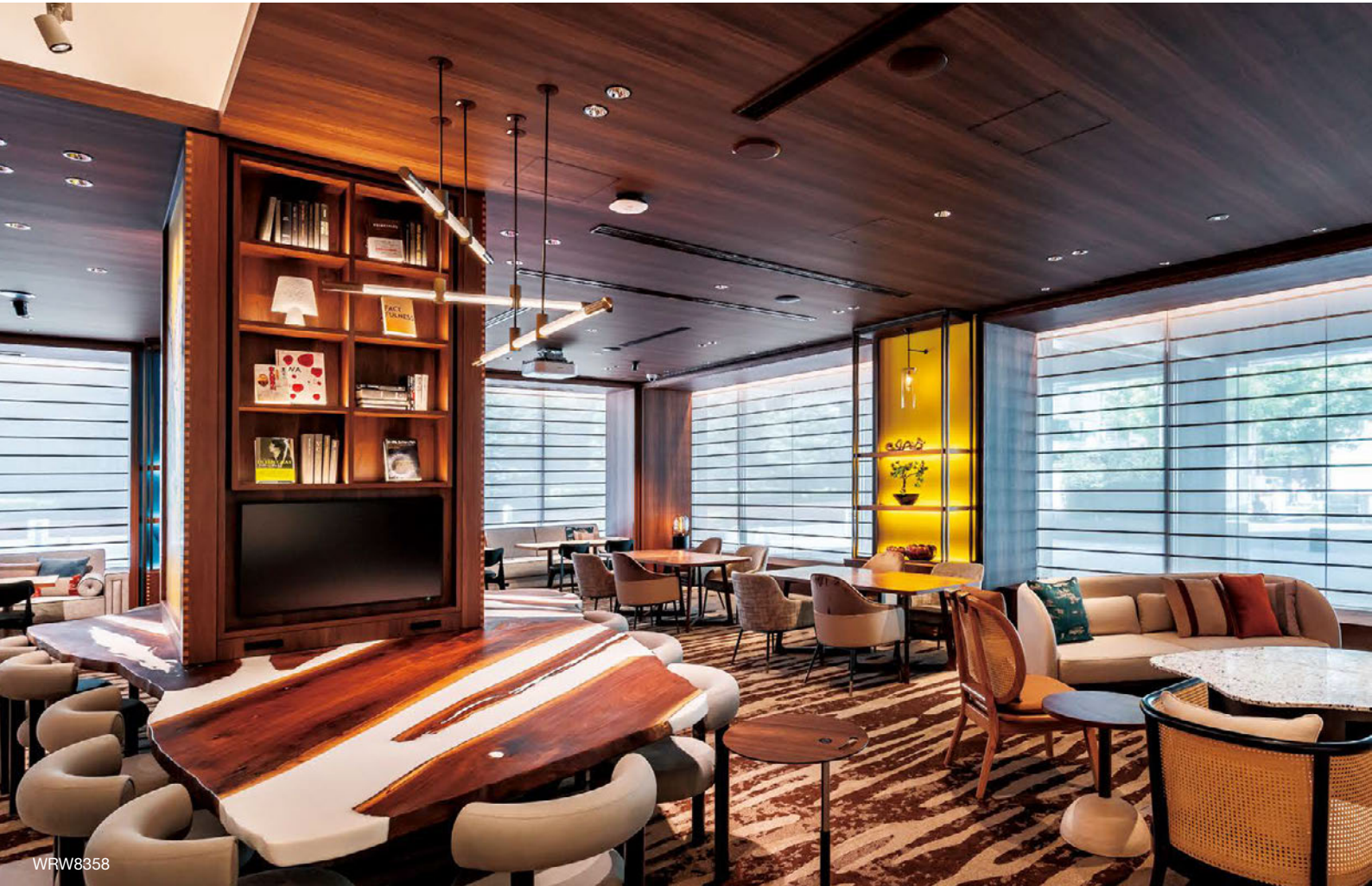


WRW8369 (Ceiling)



WRW8315

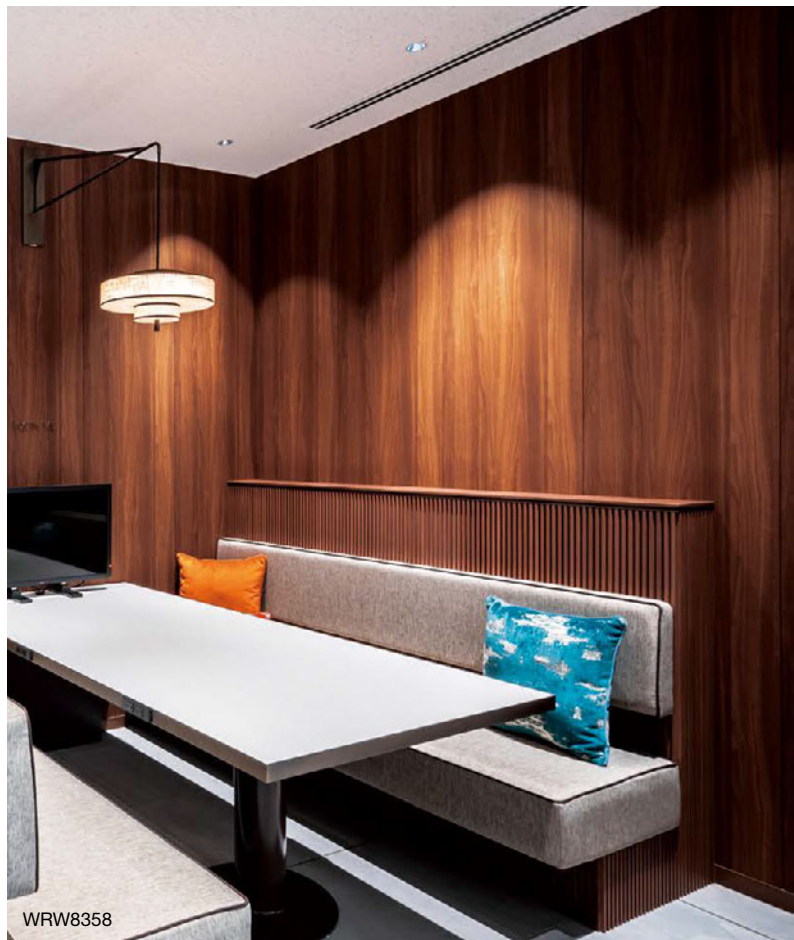
CROSSOVER Lab



WRW8358



WRW8358



WRW8358

Jankara Nishiki Store



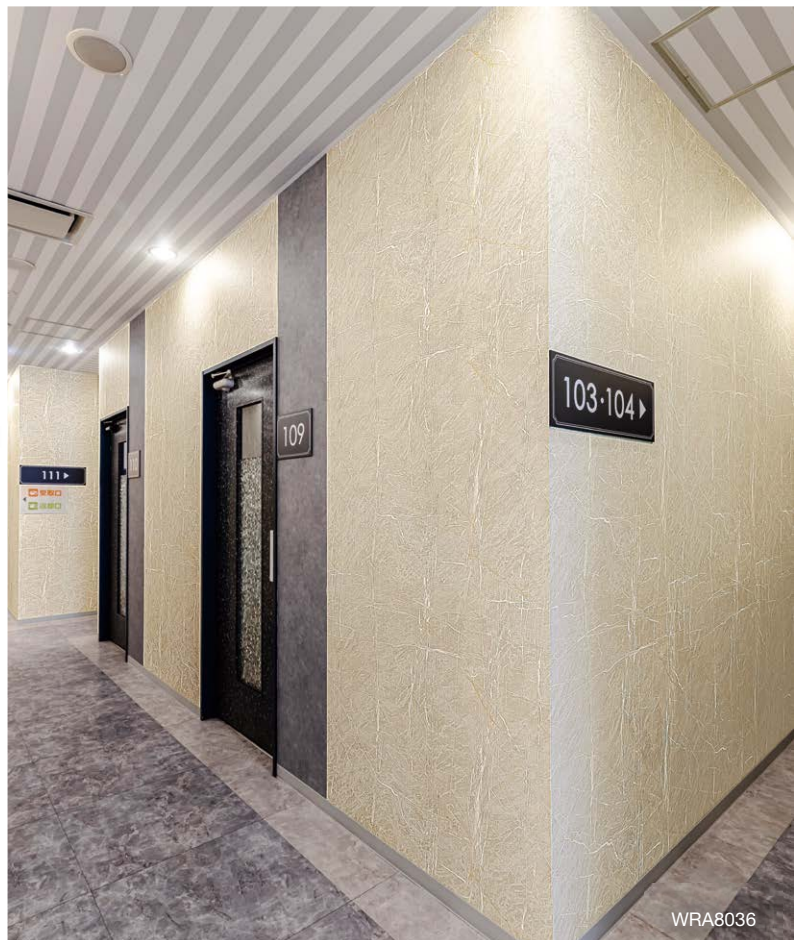
WRA8037



WRA8037



WRA8036

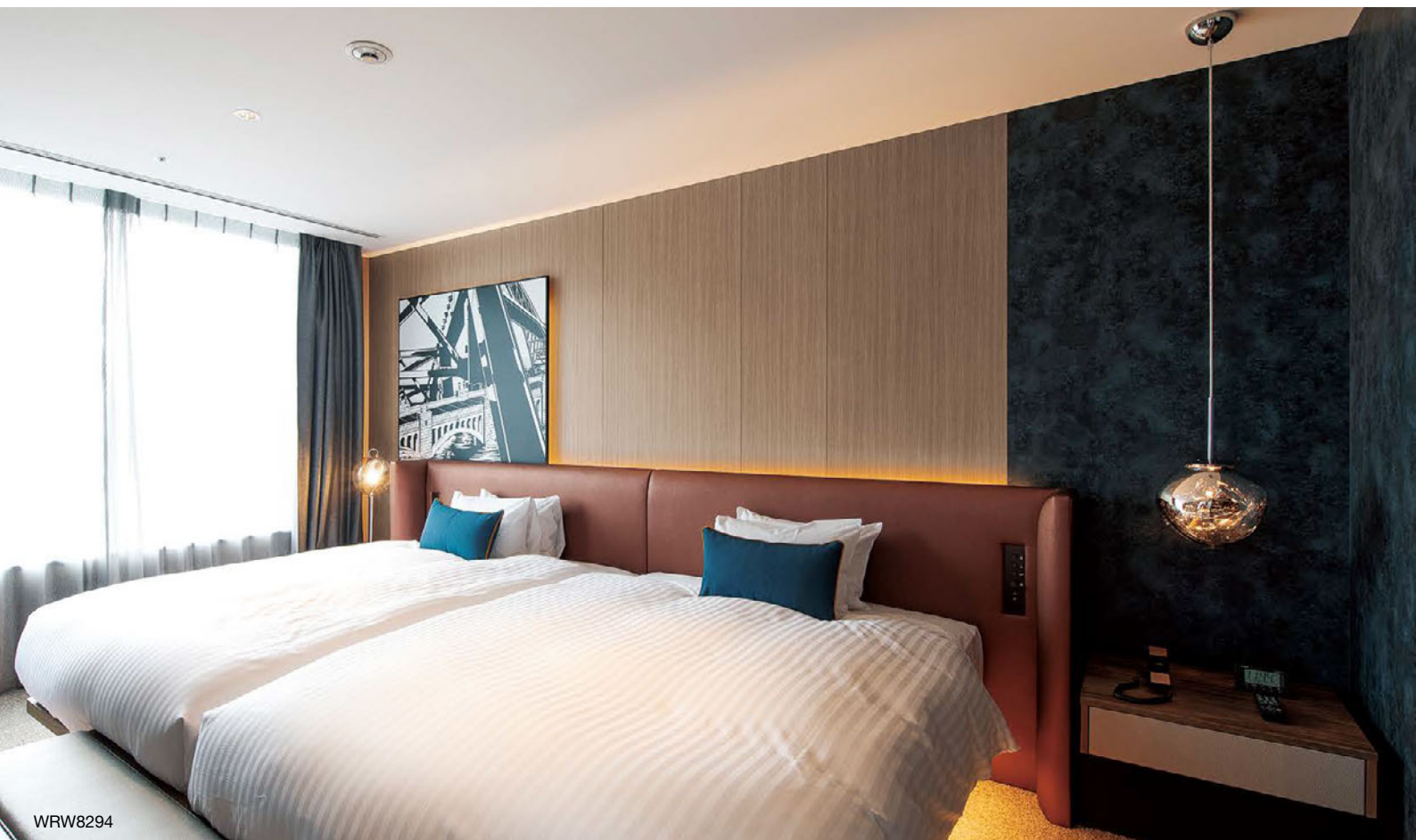


WRA8036

Hotel Intergate Osaka Umeda



WRW8294



WRW8294

Mitsubishi Fuso Bus Co., Ltd. WELCOME CENTER



WRW8322 (Horizontal installation)



WRA8041

Material

WRA8001 to WRA8060





Mortar WRA8013



Concrete WRA8004 (Bottom joint installation)



Mortar WRA8008



Concrete WRA8010 · Royal Stone High-End PST3050 (Flooring in the room)

Material



Marble WRA8028



17 Metal WRA8015



Mortar WRA8021 (Front wall)
Stucco WRA8045 (Back wall)



Marble WRA8037



Marble WRA8032 (Front wall)
Marble WRA8035 (Back wall)

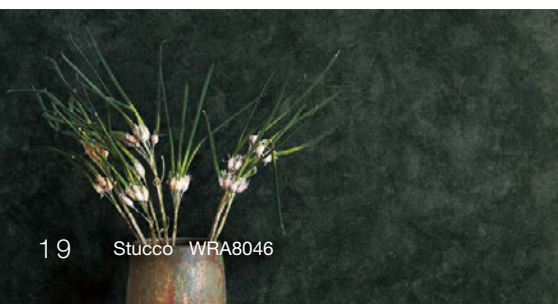
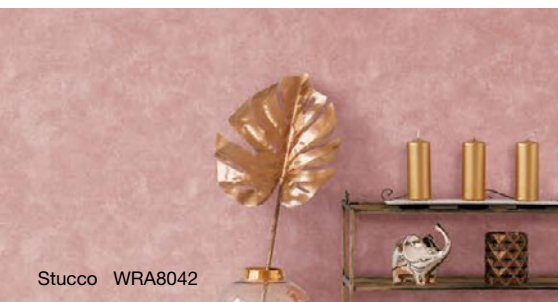
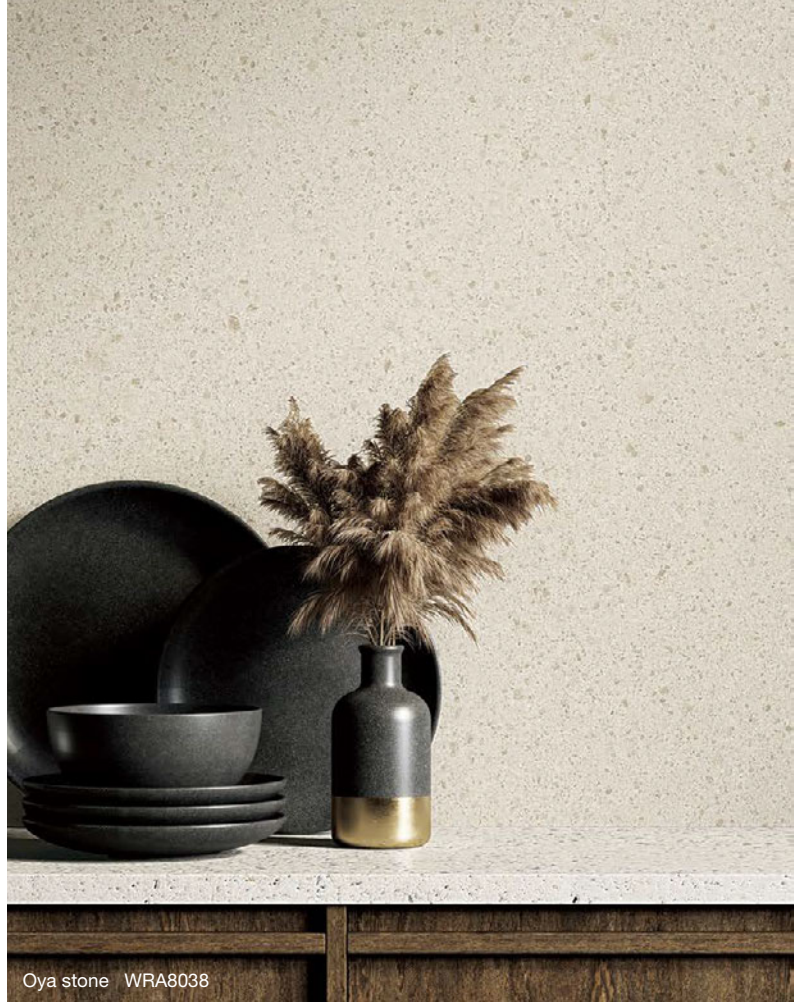


Concrete WRA8019 (Right wall)



Slate WRA8025 18

Material





Metal WRA8049



Rust WRA8051



Sandstone WRA8060



Rust WRA8047



Sandstone block WRA8055

Premium Wood

WRW8201 to WRW8224





Walnut / Plank WRW8205 (Right wall)
Stucco WRA8045 (Left wall)



Walnut / Straight-grained WRW8220



Premium Wood



Maple / Straight-grained WRW8213



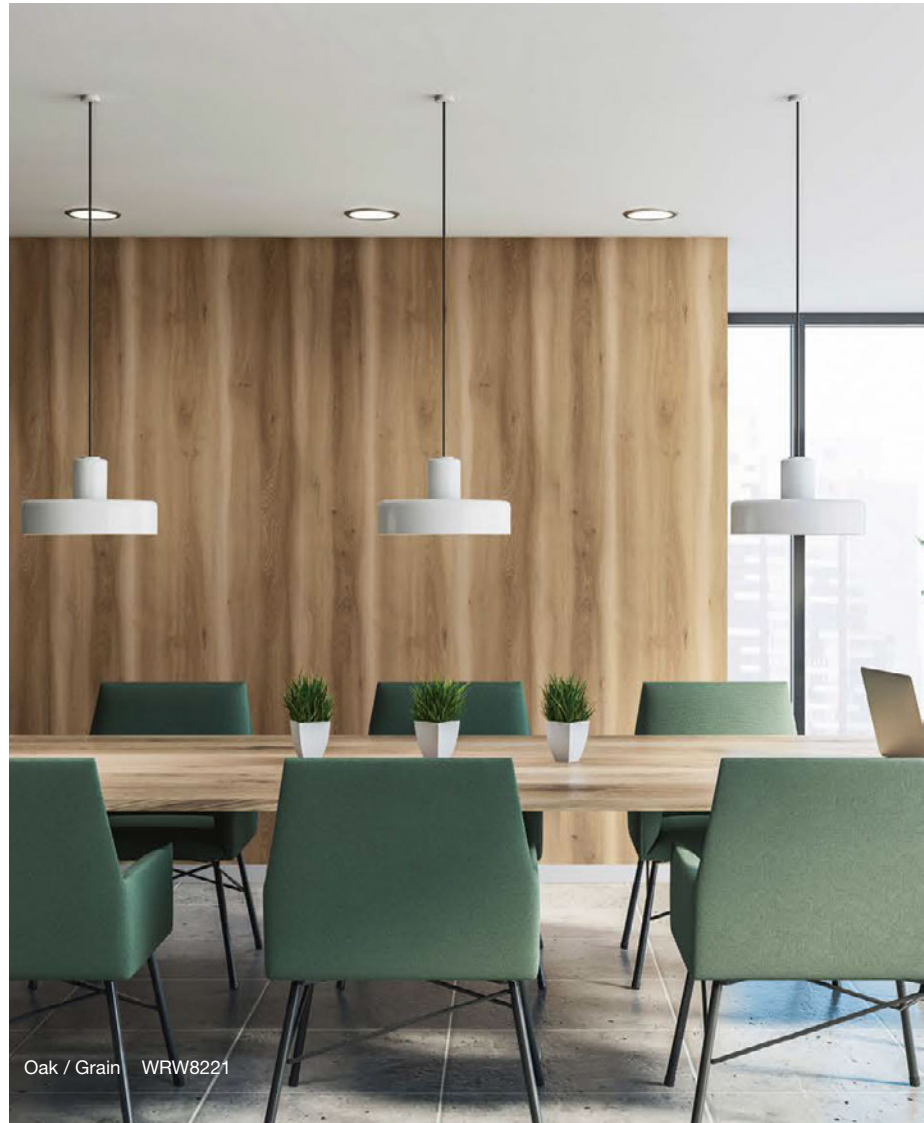
Elm / Edge grain WRW8207



Walnut / Straight-grained WRW8215



23 Oak / Grain WRW8223 (Bottom joint installation)



Oak / Grain WRW8221



WRW8225 to WRW8230 **Weather resistant type**

Special printing technology to resist color-fastness and discoloration due to sunlight (Refer to P.55).

Walnut / Straight-grained WRW8230



WRA8007 to WRA8009
WRW8231 to WRW8241

Antiviral type

Antiviral elements on the wallpaper surface reduces the number of virus (Refer to P.55).

Mortar WRA8009



Oak / Edge grain WRW8240 24

Rustic Wood

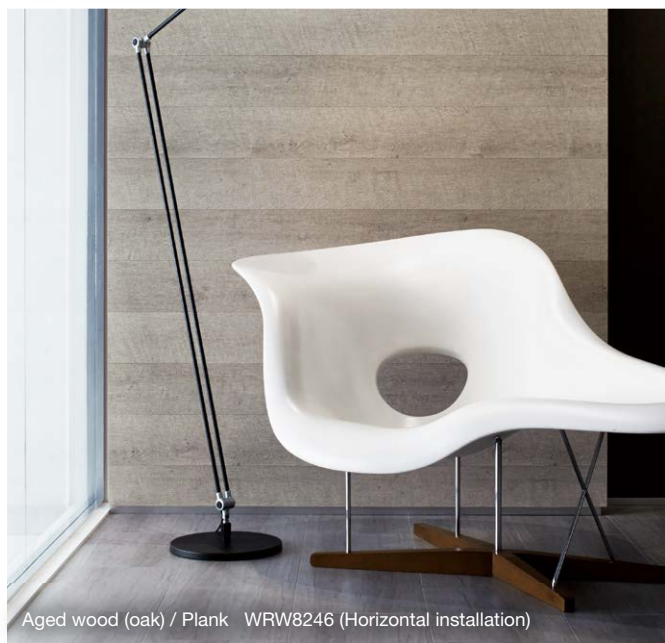
WRW8242 to WRW8251



Oak / Plank WRW8245 (Right wall)
Concrete WRA8019 (Left wall)



OSB WRW8243



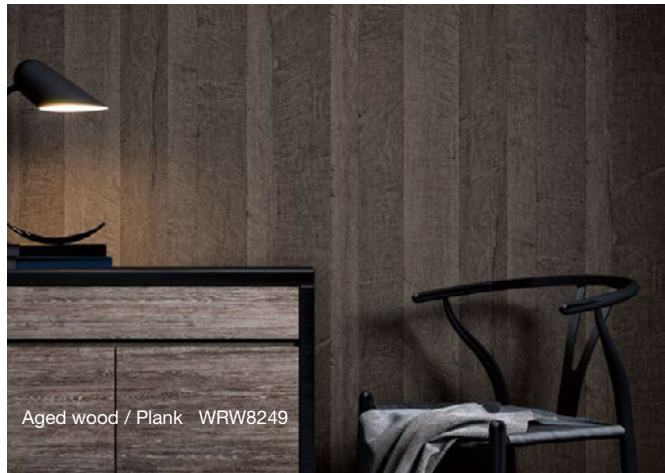
Aged wood (oak) / Plank WRW8246 (Horizontal installation)



25 Mixed wood / Block WRW8251



Pine / Plank WRW8250



Aged wood / Plank WRW8249



Cypress / Random edge grain WRW8252 (Above)



WRW8252 to WRW8263

Japanese Wood

Castor aralia / Edge grain WRW8256



Kurumi walnut / Straight-grained WRW8258



Japanese cedar (Uzukuri texture) / Grain WRW8260

Standard Wood

WRW8264 to WRW8370





Chestnut / Straight-grained WRW8279



Oak / Random edge grain WRW8267



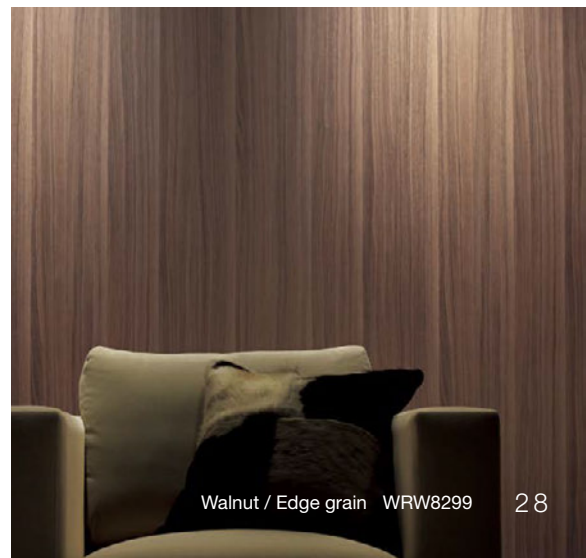
Persimmon / Straight-grained WRW8276



Ash / Grain WRW8283



Mahogany / Edge grain WRW8350



Walnut / Edge grain WRW8299

Pattern selection

SCALE 1/10

Material

Concrete	P.29
Mortar	P.30
Metal	P.30
Marble	P.31 · 32
Slate	P.32
Oya stone	P.32
Stucco	P.32
Sandstone block	P.33
Sandstone	P.33
Rust	P.33
Woven fabric	P.33

Wood

Ash	P.34
Apple	P.35
Walnut	P.35 to 38
Elm	P.38
OSB	P.39
Oak	P.39 to 41
Persimmon	P.41
Camphorwood	P.41
Aged wood (oak)	P.41
Aged wood	P.42
Kurumi walnut	P.42
Sycamore	P.42
Japanese cedar	P.42
Zebrawood	P.42
Castor aralia	P.42
Teak	P.43
Chestnut	P.43
Cherry	P.43 · 44
Abstract line	P.44
Nara Japanese oak	P.45
Noce	P.45
Pine	P.45
Cypress	P.45 · 46
Beech	P.46
Primavera	P.46
Block wood	P.46
Pecan	P.46
Mahogany	P.46 · 47
Mixed wood	P.47
Maple	P.47 · 48
Japanese oak	P.48
Rose	P.48
Walnut (Horizontal pattern)	P.48

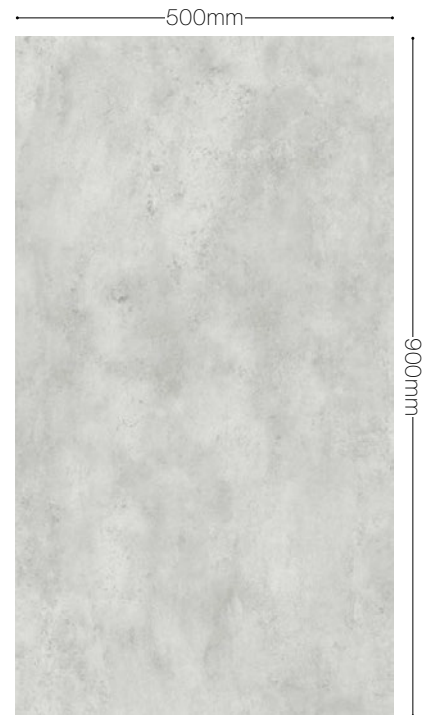
Material



WRA8001 Concrete



WRA8002 WRA8003



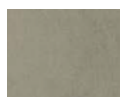
WRA8004 Concrete



WRA8005 WRA8006



WRA8010 Concrete



WRA8011

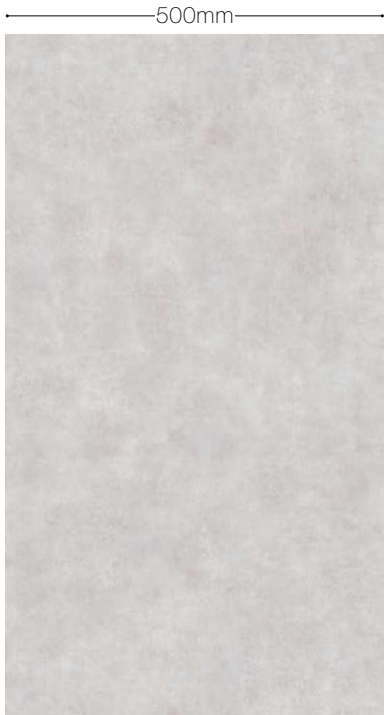


WRA8019 Concrete



WRA8018 WRA8020

- The image shown is part of the pattern.
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Be sure to check with a sample book before specifying the product.



WRA8007 Mortar



WRA8008



WRA8009 Mortar



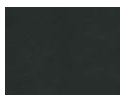
WRA8012 Mortar



WRA8013 WRA8014



WRA8021 Mortar



WRA8022



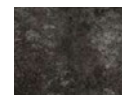
WRA8015 Metal



WRA8016 WRA8017



WRA8049 Metal

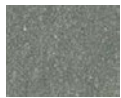


WRA8050

Material



WRA8027 Marble



WRA8028



WRA8029 Marble



WRA8030 WRA8031



WRA8032 Marble



WRA8033



WRA8034 Marble



WRA8035

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WRA8036 Marble



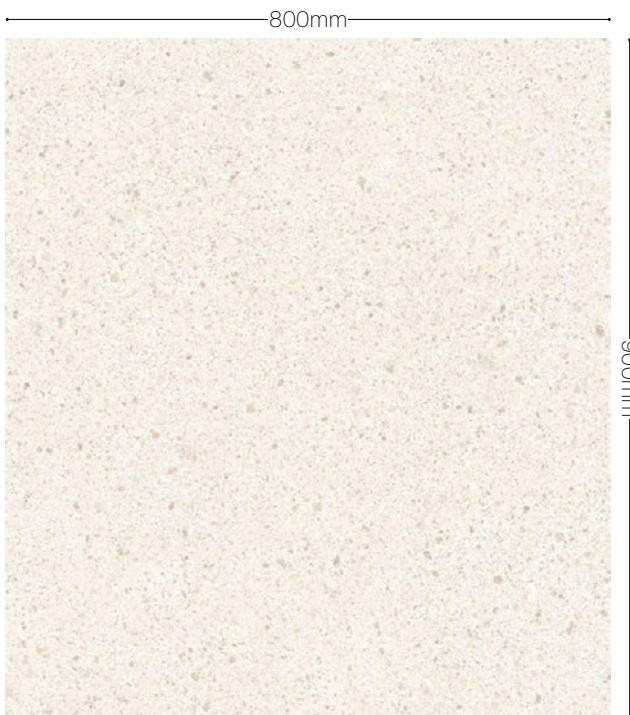
WRA8037



WRA8023 Slate



WRA8024 WRA8025 WRA8026



WRA8038 Oya stone



WRA8039 Stucco



WRA8040 WRA8041 WRA8042 WRA8043 WRA8044



WRA8045 WRA8046

Material



WRA8054 Sandstone block



WRA8056 Sandstone



WRA8055



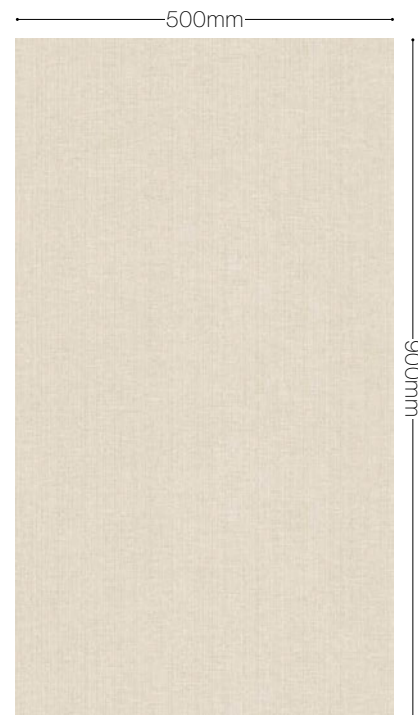
WRA8057 WRA8058 WRA8059 WRA8060



WRA8047 Rust



WRA8051 Rust



WRA8052 Woven fabric



WRA8048



WRA8053

Wood

- The image shown is part of the pattern.
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WRW8282 Ash / Plank



WRW8368



WRW8283 Ash / Grain



WRW8225 Ash / Straight-grained



WRW8226



WRW8227



WRW8300 Ash / Block



WRW8285



WRW8311 Ash / Grain



WRW8323 Ash / Random edge grain

Wood



WRW8345 Apple / Straight-grained



WRW8204 Walnut / Plank



WRW8205 WRW8206



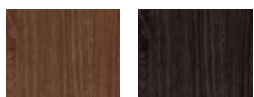
WRW8214 Walnut / Straight-grained



WRW8215 WRW8216 WRW8217



WRW8218 Walnut / Straight-grained



WRW8219 WRW8220



WRW8228 Walnut / Straight-grained



WRW8229 WRW8230



WRW8235 Walnut / Straight-grained



WRW8236 WRW8237

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Be sure to check with a sample book before specifying the product.

◆ Note that the marks are of the same color but different grain (straight-grained and edge grain).
The ★ marks are vertical pattern for WRW8288 and WRW8299, and horizontal pattern for DEC8288 and DEC8299. Please note.



WRW8266 Walnut / Edge grain
(DEC8266)



WRW8294 WRW8296 WRW8315
(DEC8294) (DEC8296) (DEC8315)



WRW8338
(DEC8338)



WRW8284 Walnut / Straight-grained
(DEC8284◆)



WRW8297 WRW8335 WRW8343
(DEC8297◆) (DEC8335◆) (DEC8343◆)



WRW8354 WRW8355 WRW8363
(DEC8357◆) (DEC8364◆)



WRW8351 Walnut / Edge grain



WRW8357 WRW8364
(DEC8357) (DEC8364)



WRW8299 Walnut / Edge grain
(DEC8299★)



WRW8288
(DEC8288★)



WRW8308 Walnut / Plank



WRW8291



WRW8295 Walnut / Grain

Wood



WRW8309 Walnut / Random edge grain (DEC8309)



WRW8326 Walnut / Plank



WRW8342 Walnut / Random edge grain



WRW8339 WRW8356 WRW8361 (DEC8361)



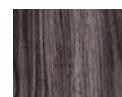
WRW8348 Walnut / Edge grain



WRW8349 Walnut / Grain



WRW8353 Walnut / Straight-grained



WRW8365

- The image shown is part of the pattern.
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Be sure to check with a sample book before specifying the product.



WRW8358 Walnut / Plank



WRW8207 Elm / Edge grain



WRW8231 Elm / Straight-grained



WRW8208 WRW8209



WRW8232



WRW8280 Elm / Straight-grained



WRW8293 Elm / Straight-grained



WRW8310 Elm / Straight-grained



WRW8362

Wood



WRW8243 OSB



WRW8242



WRW8201 Oak / Plank



WRW8202 WRW8203



WRW8221 Oak / Grain



WRW8222



WRW8223 Oak / Grain



WRW8224



WRW8238 Oak / Edge grain



WRW8239 WRW8240 WRW8241

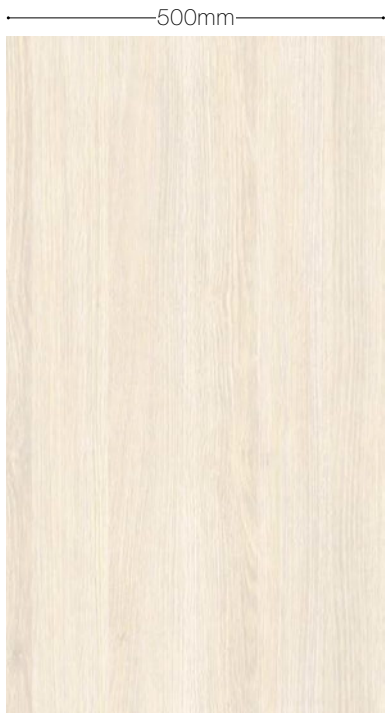


WRW8244 Oak / Plank



WRW8245

- The image shown is part of the pattern.
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- HARDEC (DEC code) is the same pattern as REAL DECO, but HARDEC's width is slightly longer.
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WRW8267 Oak / Random edge grain



WRW8277 WRW8287



WRW8304 Oak / Edge grain
(DEC8304)



WRW8268 WRW8302 WRW8370
(DEC8268) (DEC8302) (DEC8370)



WRW8278 Oak / Straight-grained



WRW8286 WRW8301



WRW8305 Oak / Edge grain



WRW8313 Oak / Plank



WRW8317 Oak / Grain

Wood



WRW8325 Oak / Edge grain



WRW8332



WRW8327 Oak / Straight-grained



WRW8369 Oak / Random edge grain



WRW8276 Persimmon / Straight-grained



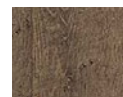
WRW8272 Camphorwood /
Random edge grain



WRW8246 Aged wood (oak) / Plank
(DEC8246)



WRW8247
(DEC8247)



WRW8248

- The image shown is part of the pattern.
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WRW8249 Aged wood / Plank



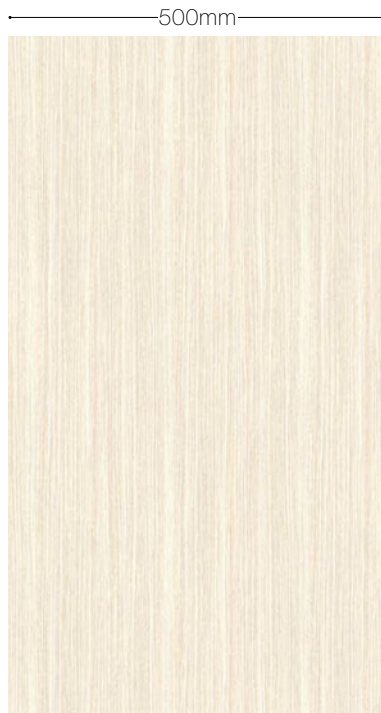
WRW8258 Kurumi walnut /
Straight-grained



WRW8273 Sycamore / Plank



WRW8260 Japanese cedar
(Uzukuri texture) / Grain



WRW8265 Zebrawood / Edge grain
(DEC8265)



WRW8264
(DEC8264)



WRW8256 Castor aralia / Edge grain



WRW8257

Wood



WRW8337 Teak / Edge grain



WRW8344 Teak / Edge grain



WRW8366



WRW8279 Chestnut / Straight-grained



WRW8281



WRW8307



WRW8292 Chestnut / Straight-grained



WRW8316



WRW8210 Cherry / Straight-grained



WRW8211



WRW8233 Cherry / Plank



WRW8234

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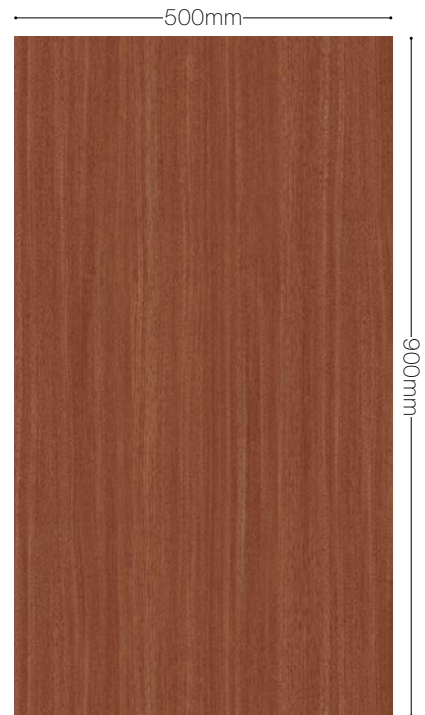
WRW8271 Cherry / Random edge grain



WRW8298 Cherry / Edge grain
(DEC8298)



WRW8289 (DEC8289) WRW8328 (DEC8328)



WRW8340 Cherry / Edge grain
(DEC8340)



WRW8330 (DEC8330) WRW8341 (DEC8341) WRW8360 (DEC8360)



WRW8336 Cherry / Straight-grained



WRW8333 Cherry / Random edge grain



WRW8275 Abstract line



WRW8331

Wood



WRW8261 Nara Japanese oak /
Edge grain



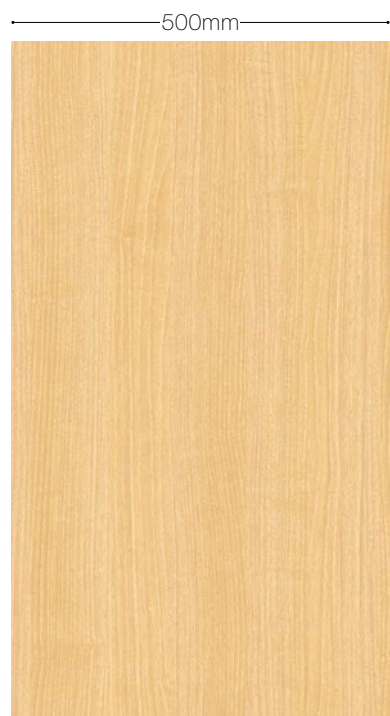
WRW8262 Nara Japanese oak /
Random edge grain



WRW8263



WRW8314 Noce / Edge grain



WRW8322 Noce / Random edge grain



WRW8250 Pine / Plank



WRW8252 Cypress /
Random edge grain



WRW8253

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WRW8254 Cypress / Edge grain



WRW8255



WRW8334 Beech / Plank



WRW8359 Primavera / Edge grain



WRW8312 Block wood / Block



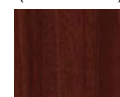
WRW8269 Pecan / Grain



WRW8290



WRW8346 Mahogany / Edge grain
(DEC8346)



WRW8350
(DEC8350)

Wood



WRW8347 Mahogany / Edge grain



WRW8251 Mixed wood / Block



WRW8212 Maple / Straight-grained



WRW8213



WRW8270 Maple / Random edge grain
(DEC8270)



WRW8274
(DEC8274)



WRW8320
(DEC8320)



WRW8303 Maple / Block



WRW8319 Maple / Random edge grain

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The ★ marks are vertical pattern for WRW8288 and WRW8299, and horizontal pattern for DEC8288 and DEC8299. Please note.



WRW8306 Maple / Straight-grained



WRW8318



WRW8321 Maple / Random edge grain
(DEC8321)



WRW8324
(DEC8324)



WRW8329
(DEC8329)



WRW8259 Japanese oak / Plank



WRW8352 Rose / Edge grain
(DEC8352)



WRW8367
(DEC8367)



DEC8299 Walnut (Horizontal pattern) /
(WRW8299★) Edge grain



DEC8288
(WRW8288★)



Decorative films with adhesive in the same pattern and color as REAL DECO. Can be used separately according to the purpose. Wider choices for your interior selections.

HARDEC

Decorative films with adhesive

Walnut / Edge grain



DEC8284 P.36



DEC8297 P.36



DEC8335 P.36

Walnut / Edge grain



DEC8266 P.36



DEC8294 P.36



DEC8296 P.36

Cherry / Edge grain



DEC8289 P.44



DEC8298 P.44



DEC8328 P.44

Maple / Random edge grain



DEC8270 P.47



DEC8274 P.47

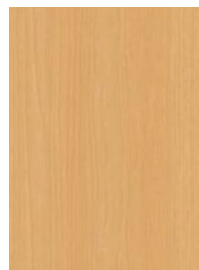


DEC8320 P.47

Maple / Random edge grain



DEC8321 P.48



DEC8324 P.48



DEC8329 P.48



Cherry / Edge grain
DEC8289 (Door) · WRW8289 (Wall Bottom joint installation)



Maple / Random edge grain
DEC8329 (Back wall) · WRW8329 (Front wall Bottom joint installation)

The * marks are attached to those with a large change in color and pattern. Recommended to order a large sample and check it.

● The image of pattern can be checked in the "P.00" indicated as below.

● The last four digits of HARDEC (DEC) code are the same as REAL DECO (WRW) code.

Walnut / Random edge grain



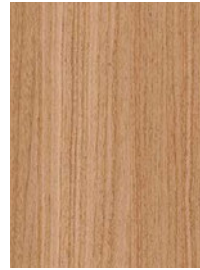
DEC8343 P.36



DEC8357 P.36



DEC8364 P.36



DEC8309 P.37



DEC8361 P.37

Walnut (Horizontal pattern) / Edge grain



DEC8315 P.36



DEC8338 P.36



DEC8288* P.48



DEC8299* P.48

Cherry / Edge grain



DEC8330 P.44



DEC8340 P.44



DEC8341 P.44



DEC8360 P.44



Aged wood (oak) / Plank
DEC8246 (Bottom joint installation)

Zebrawood / Edge grain



DEC8264 P.42



DEC8265 P.42



DEC8268 P.40



DEC8302 P.40



DEC8304 P.40



DEC8370 P.40

Aged wood (oak) / Plank



DEC8246* P.41



DEC8247* P.41

Mahogany / Edge grain



DEC8346 P.46



DEC8350 P.46

Rose / Edge grain



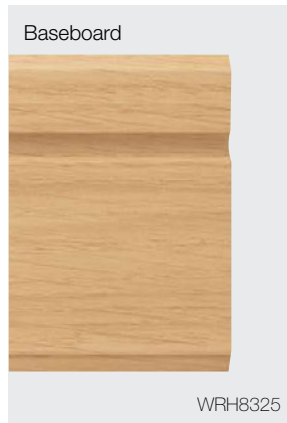
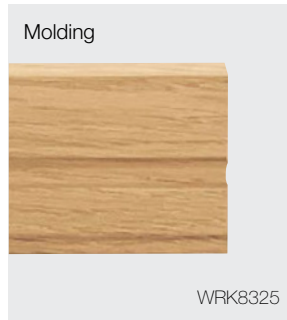
DEC8352 P.48



DEC8367 P.48

Accessories

With the same decorative sheets as those used for baseboard and REAL DECO (wallpapers), same texture, beauty and uniformity can be obtained.



	Oak	Zebrawood	Noche	Ash	Oak	Cherry
Molding	WRK8261	WRK8265	WRK8314	WRK8323	WRK8325	WRK8333
Molding corner material	WRE8261	WRE8265	WRE8314	WRE8323	WRE8325	WRE8333
Corner material	WRC8261	WRC8265	WRC8314	WRC8323	WRC8325	WRC8333
Baseboard	WRH8261	WRH8265	WRH8314	WRH8323	WRH8325	WRH8333
Baseboard corner material	WRT8261	WRT8265	WRT8314	WRT8323	WRT8325	WRT8333
REALDECO	WRW8261	WRW8265	WRW8314	WRW8323	WRW8325	WRW8333



	Walnut	Mahogany	Primavera	Walnut	Oak
Molding	WRK8342	WRK8347	WRK8359	WRK8363	WRK8369
Molding corner material	WRE8342	WRE8347	WRE8359	WRE8363	WRE8369
Corner material	WRC8342	WRC8347	WRC8359	WRC8363	WRC8369
Baseboard	WRH8342	WRH8347	WRH8359	WRH8363	WRH8369
Baseboard corner material	WRT8342	WRT8347	WRT8359	WRT8363	WRT8369
REALDECO	WRW8342	WRW8347	WRW8359	WRW8363	WRW8369

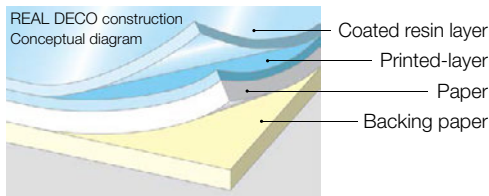
● Photographs for the color sample differ from the actual, so please order the actual sample before confirming.

◆ mark has different wood grain pattern from the wood/corner material, but it is the same color and the same tree's pattern, therefore, you can combine it without any discomfort.

Product description

1 REAL DECO Non-combustible decorative wallcovering

The sophisticated feeling of gloss and realistic expressions will give a sense of luxury.

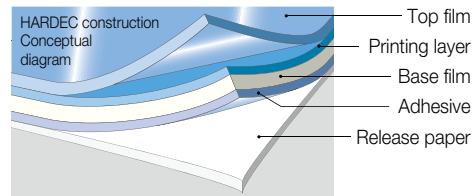


- Special features : 1) Scratch resistant (surface reinforcement)
2) Stain resistant
3) Incombustible certified 4) Anti-fungus
- Number of items : 230 (64 new items)
- Size : Width 92 to 92.6 cm x Length 50m (random) Thickness: Approx. 0.2 mm
- Safety standards : complied with JIS Standards (F☆☆☆☆), SV Standards

Fire protection performance (direct installation)				Category
Incombustible substrate	Incombustible gypsum board	Semi-incombustible ground	Metal substrate (Excluding aluminum)	
Incombustible NM-3958-2	Incombustible NM-3958-2	Semi-incombustible QM-0809-2	Incombustible NM-3959-2	1-4

2 HARDEC Decorative films with adhesive

Covers cubic curved surfaces that cannot be covered by REAL DECO, can be applied in area which requires more strength, waterways, etc. It has the same color pattern as REAL DECO, so it can be used separately according to the purpose and cost.



- Special features : 1) Scratch resistant 2) Stain resistant
3) Incombustible certified 4) Anti-fungus
- Number of items : 40
- Size : Width 122 cm x Length 50m (random) Thickness approx. 0.2mm
- Safety standards : F☆☆☆☆
(Ministerial Certification Number: MFN-0648)

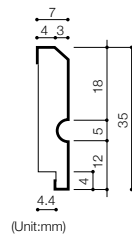
Fire protection performance (direct installation)				Category
Incombustible substrate	Incombustible gypsum board	Semi-incombustible ground	Metal substrate (Excluding aluminum)	
Incombustible NM-2155	Incombustible NM-2155	Semi-incombustible QM-0596	Incombustible NM-2155	1-4

3 Real Deco Accessories (Molding, Molding corner material, Baseboard, Baseboard corner material, Corner material)

Use the same sheet as REALDECO. Reduce the damage of scratches (Corner materials) and keep aesthetics.

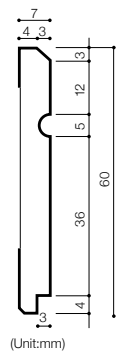
【Molding】

- Special features :
1) Designed to cover the top of Corner material
2) Beveled design for good installation
- Number of items : 11 colors
- Order unit : 4 pcs / box
- Size : Height 35 mm x Length 2000 mm
Thickness 7 mm



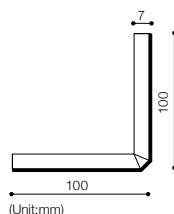
【Baseboard】

- Special features :
1) The gap on the floor can be invisible
2) Beveled design for good installation
- Number of items : 11 colors
- Order unit : 4 pcs / box
- Size : Height 60 mm x Length 2000 mm
Thickness 7 mm



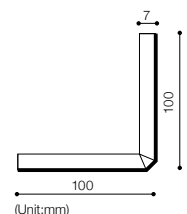
【Molding corner material】

- Number of items : 11 colors
- Order unit : 2 pcs / box
- Size : Height 35 mm x Length 200 mm
Thickness 7 mm



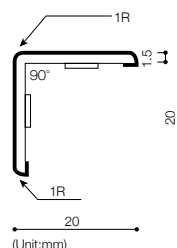
【Baseboard corner material】

- Number of items : 11 colors
- Order unit : 2 pcs / box
- Size : Height 60 mm x Length 200 mm
Thickness 7 mm



【Corner material】

- Special features : 1) Length 2700 mm
2) Reduce damage
- Number of items : 11 colors
- Order unit : 3 pcs / box
- Size : Size: Width 20 mm x Width 20 mm x Length 2700 mm Thickness 1.5 mm



Technical data

1 Function (surface reinforcement, stain resistance and anti-fungus properties)

REAL DECO satisfies the industry's unified standards for "surface reinforcement", "anti-fungus" and offers superior "stain resistance" properties. In addition, the HARDEC meets the performance of "anti-fungus" and has excellent surface strength.

Larger values indicate superior ratings (from Class 1 to Class 5).

Functional items		REAL DECO	HARDEC	Performance standard
Surface reinforcement	Load 200g/5 cycles (wallpaper industry standard)	Class 5	Class 5	Grade 4 or higher
	Load 200g/30 cycles	Class 5	Class 5	—
	Load 400g/100 cycles	Class 4-5	Class 4-5	—
Stain resistance*	Coffee, soy sauce (Water)	Class 5	Class 5	Class 4 or higher
	Crayon, water-based pen (Neutral detergent)	Class 4-5	Class 4-5	
	Permanent marker (Alcohol)	Class 4	Class 1-2	—
Anti-fungus		0	0	0

Test method: Wallpaper Performance Regulations for Surface Reinforcement and Wallpaper Performance Regulations for Contamination Prevention, established by the Wallpaper Industry Association, conforms to "mold-proof wallpaper performance regulations".

*The performance standard for stain resistance in wallpaper requires film to be attached to the surface of wallpaper, so the performance for stain resistance is not indicated.

2 Chemical resistance

Observe the surface condition after 24 hours of adhesion of the following chemicals to the surface and wiping (remover: water).

Classification	Pharmaceutical name	REAL DECO	HARDEC	PVC wallpaper (surface reinforcement)
Acid	Hydrochloric acid 37%	B	A	B
Alkali	25% Sodium Hydroxide	C	A	B
Organic solvents	Methanol	A	C	A
	Methyl ethyl ketone	A	C	C
	Ethyl acetate	A	C	B
	Tetrahydrofuran	A	C	C
	Xylene	A	C	C
	Toluene	A	C	A
Pollutant	Dichloroethane	A	C	C
	Gasoline	A	B	B
	DOP	A	B	C
	Soybean oil	A	A	A
	Cement paste	A	A	A
	Aniline blue	C	A	B
Dissolution	Perm solution	C	A	A
	Well path	A	A	A
	Neutral detergent	A	A	A
	Oxygen bleach 3-5%	A	A	A
	Sodium hypochlorite 8-10%	A	A	B

(Evaluation criteria) Evaluate each of the three criterias of coloring, material, and gloss, and make the lowest evaluation of each criterion a comprehensive evaluation.

A: No change B: Slight change C: Change D: Erosion (destruction)

(Remarks)

The surface of REAL DECO accessories uses the same decorative sheet as the REAL DECO.

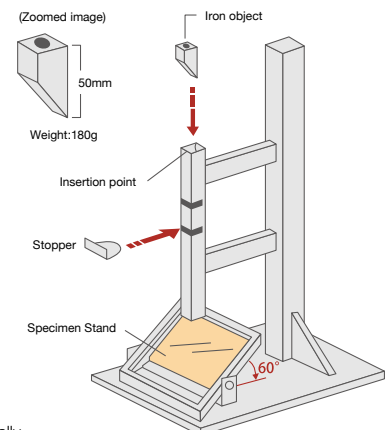
The evaluation results of stain and chemical resistance in cosmetic sheets are equivalent to those of REAL DECO.

3 Impact scratch strength test (load of falling piece: 180 g)

Drop height	REAL DECO (wallpaper)	HARDEC	PVC wallpaper (surface reinforcement)
350mm (12.5mm gypsum board)	 △	 ○	 ×
750mm (12.5mm gypsum board)	 ×	 ○	 ×

◎: No change ○: Slightly indented △: Damaged ×: Severely damaged

Test method: Drop an iron object having a weight of 180g and a tip thickness of 1mm from a predetermined position, and visually observe the damage (indentation, scratches).

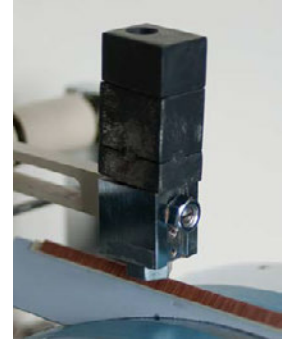
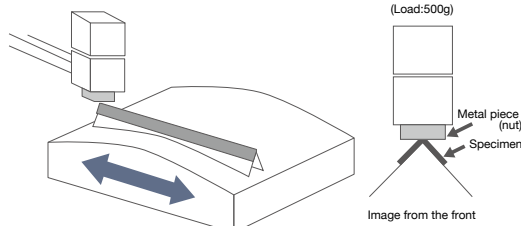


4 Out-corner strength test

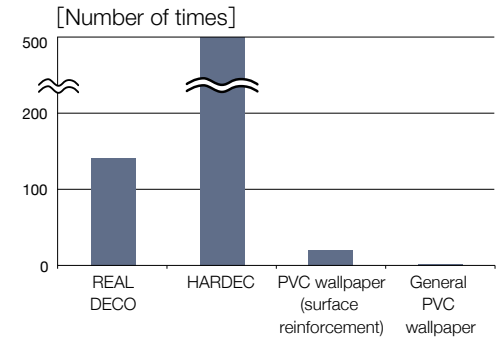
1 Surface friction strength test

<Test method>

- 1) Set the corner material (for base molding) to which the sample is attached in the surface strengthening tester.
- 2) Remove the cover of the friction element and fix the metal piece (nut) to the lower surface of the friction element.
- 3) Place the frictional elements on top of the sample and adjust the full load to 500g and return the testing machine to the front and back to measure the number of times that the sample surface becomes damaged.



Sample name	Number of times	Evaluation
REAL DECO	140-150 times	This is about six to seven times the strength of PVC wallpaper (surface reinforcement).
HARDEC	500 times or more	It becomes slightly shiny, but no damage.
PVC wallpaper (surface reinforcement)	20 to 25 times	It is about 10 times stronger than general PVC wallpaper.
General PVC wallpaper	2 to 3 times	—



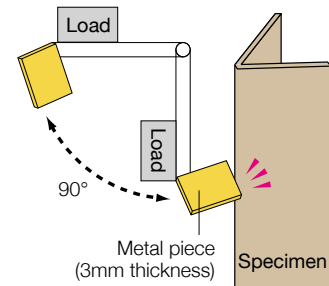
2 Impact scratch test

<Test method>

Assuming that a heavy object comes into contact with the exit corner, fix a 3mm thick piece of metal (load 200g) to the tip of the pendulum and lift it up to 90° to fall.

Determine the extent of scratches and shock frictions by 5-class evaluation.

- 1) Raise the pendulum up to 90° and then naturally fall from there.
- 2) Repeat this approach. → Evaluation are made from 10 times and 50 times testing.



The higher the value, the better the rating (Class 1 through Class 5).

	REAL DECO		HARDEC		REAL DECO corner materials	
	When a corner tape (for underground molding) is attached to a gypsum board and REAL DECO is installed		When a corner tape (for base molding) is attached to a gypsum board and HARDEC is installed.		When REAL DECO is installed to a gypsum board and REAL DECO corner material is applied.	
Results	Fall 10 times	Fall 50 times	Fall 10 times	Fall 50 times	Fall 10 times	Fall 50 times
		 The printed layer on the surface damaged	 The backing paper visible	 The printed layer of the surface slightly damaged	 Drop out of the printing layer on the surface	 Almost no change
Classified as	Class 3	Class 2	Class 4	Class 3	Class 5	Class 4

5 Weather resistant type

WRW8225 to 8230

Special printing technology prevents degradation of the printing layer.

*Sunshine Weather-Ometer equivalent to 5000 hours in UV accumulation exposure, no significant change. It has 3-5 years of light resistance (not guaranteed).

	Not irradiated	Equivalent to 3000 hours	Equivalent to 5000 hours
Weather resistant type			
General specification			

The general specifications also have sufficient weather resistance under normal environments. Recommended for areas such as glass windows around openings that require consideration of coloring and fading due to sunlight. Cannot be used outdoor. No water-resistant.

6 Antiviral type

WRA8007 to 8009 · WRW8231 to 8241

Antiviral elements on the surface of wallpaper reduces the number of virus. It works well in the interior space where safe environment is required.

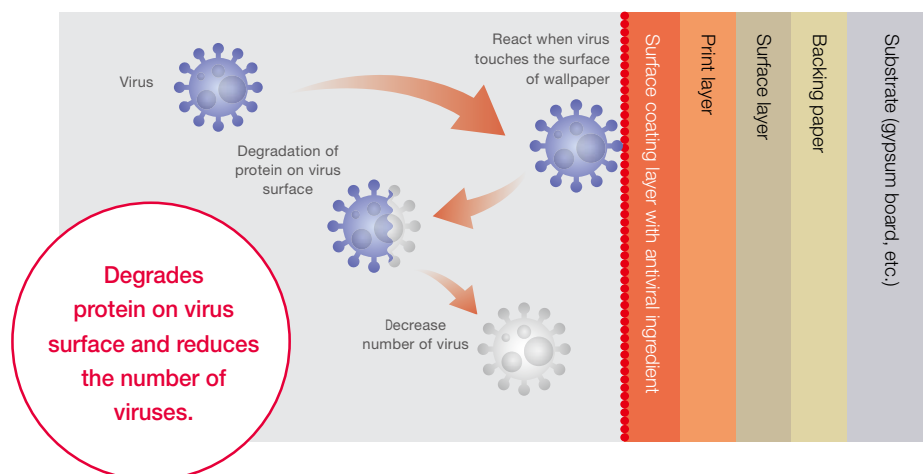


SIAA
ISO 21702
抗ウイルス加工
無機系抗ウイルス剤・
コーティング表面層
JP0612352A0004Y

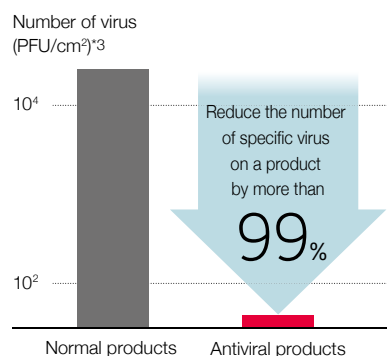
SIAA antiviral certified

The products with this mark indicates that it is certified by SIAA (Society of Industrial-Technology for Antimicrobial Articles), following the guideline and testing is conducted according to ISO21702.

How it works



Test result



Laboratory : Nissenken Quality Evaluation Center (General Incorporated Association) Test method: ISO21702
Tested virus: Virus with envelope*1*2
Virus without envelope*1*2

- *1 Membrane around viral particles
- *2 Just mention with or without envelope since specific virus names cannot be expressed in relation to the Pharmaceuticals and Medical Devices Act (PAL) to ensure the quality, efficacy, and safety of pharmaceuticals and medical devices
- *3 PFU: An index of the number of viruses measured by the plaque method.

They will change slightly depending on conditions of usage, weather, etc. The test result is based on under a certain condition, not in actual using condition.

Safety of the ingredient

The ingredient passes SIAA's oral toxicity, skin irritation and other tests.

- Complies with SIAA safety standards.
- Antiviral does not prevent virus.
- Antiviral processing is not intended for the treatment or prevention of illnesses.
Also, it does not guarantee the prevention of infection.
- It is not a product for medical care like pharmaceuticals or medical devices.
- Antiviral function is not necessarily effective to all viruses.
Also it cannot have similar test results against all virus types.
- Antiviral performance may decline due to surface conditions like dirt, wear, etc.

7 Technical data of HARDEC

Item	Evaluation method	Result of evaluation
Crack impact at low temperature	Assessed by shock testing machine after 24 hours at 0°C	No crack
Abrasion resistance	Taber Abrasion Test (1-kg load on CS-17 wheels)	Abrasion end point 7000 revolutions or more
Weather resistance	Sunshine Carbon Arc Weather Meter Weather Resistance Test	Almost no change for 300 hours
Dimensional stability	Place a 100mm×100mm mark line on a 120mm×120mm sample attached to an aluminum, and leave it for 0.5 hours at 100°C. Measure shrinkage between the index lines.	Less than 0.3mm
Chemical and solution resistance	Drop the following chemicals on the surface, leave them in a watch dish for 6 hours, wash them, and observe the surface after being left in the room for 24 hours.	No change
	Petroleum benzine, ethyl alcohol, heptane, hydrochloric acid (10%), n-hexane, ammonia water, casei soda (10%)	
	Toluene, ethyl acetate, MEK	
Moisture resistance	Evaluation of the adhesive after 1 month or more with 45°C , 95% humidity	No change
Heat resistance	Evaluation of adhesion after 1 month left at 65°C	No change
Heat cycle durability	Leave a 120mm×120mm sample placed on an aluminum at -20°C and 70°C for 2 hours each, and confirm the adhesiveness and color change after repeating 10 times.	No peeling or color change
Stain resistance	After contact with the following substances for 24 hours, wipe with a neutral detergent or ethyl alcohol	Able to wipe out
	Coke, soap water for facial washing (1%), soap water for bathrooms (1%), wine, ketchup, vinegar, chloric acid (10%), soy sauce, hydrogen peroxide, water-based sign pen (black), household ammonia	

8 Adhesion strength of HARDEC

Adhere to individual base materials, after 3 days, peaking at 180°C (N/25 mm range)*

	With primer	No primer
Rawan veneer	40.18	—
China veneer	45.08	—
Gypsum board	1.18 (Ground destruction)	—
Calcium silicate	36.26	—

	With primer	No primer
Bonded steel	49.00	31.36
Aluminum	—	25.48
Stainless steel	—	24.50
Acrylic	—	27.44

*Figures differ depending on usage conditions.

Notes on selection

1 Application

Application	REAL DECO	HARDEC	REAL DECO Accessories
Normal wall	○	○	○
Ceiling	△	△	—
Surfaces where unevenness tend to appear due to downlight/indirect lighting	△	△	○
Surface where outside light comes in from a window	△	△	○
Two-dimensional R-area	○	○	×
Cubic surface	×	○	×
Area requiring durability	×	○	×
Area where water resistance is required (places where water is constantly applied)	×	○	×

○: Can be installed △: Caution is required for installation (can be installed by setting the smoothness of the substrate to Class 1) ×: Not suitable for installation

2 Notes for selection

REAL DECO

- REAL DECO is a wallpaper mainly made of paper. Due to no flexibility, it is not possible to install on cubic surface. Should be installed on a flat surface, such as a wall or ceiling surface. Also, do not use the product in locations where durability and water resistance are required.
- Installation costs are higher because of higher difficulty of installation than normal wallpapers.

HARDEC

- Coated with an adhesive on the back of the sheet. Please note that the handling of this product differs greatly from that of REAL DECO from substrate adjustment to installation. Installation costs are higher because of high difficulty of installation.
- Although it is sufficiently durable against moisture, the surface condition of the finished material may deteriorate due to alteration of the substrate (rust, swelling, etc.). Before installation, select a base material with water resistance, apply it to the primer, and install with overlap method. Also, take care not to inflow water from the edges by applying the sealing, etc.
- Do not use on glass surfaces that are exposed to direct sunlight. There is a possibility that glass may break by heat.
- Do not install on solid wood, laminated lumber, brass, copper or lead substrates, as poor adhesion may cause bubble.

- Under the Law Concerning the Promotion of Effective Utilization of Resources, the back of the product is marked with a thin plot of the "∞PVC" mark, which indicates that the material is PVC. When light hits the back, some colors may see the "∞PVC" mark through the surface.

REAL DECO Accessories

- The same decorative sheets as REAL DECO are used. As decorative sheets are used to express a natural feel, there is a difference in color pattern for each component. For this reason, some differences in colors and patterns may be seen depending on the joints of the components. Please note in advance.
- MDFs are used as the core materials for REAL DECO Molding, Molding corner material, Baseboard and Baseboard corner material so there is a risk of expansion if water is absorbed. Don't use the product in places where is assumed to be wet.
- REAL DECO corner materials are not fully protected from scratches. Keep in mind that there is a risk of damage or loss in some cases, of materials coming off if a sharp or heavy item hits. If it is damaged, use aftermarket pens or corking agents to repair it.

REAL DECO installation guide

1 Substrate of REAL DECO

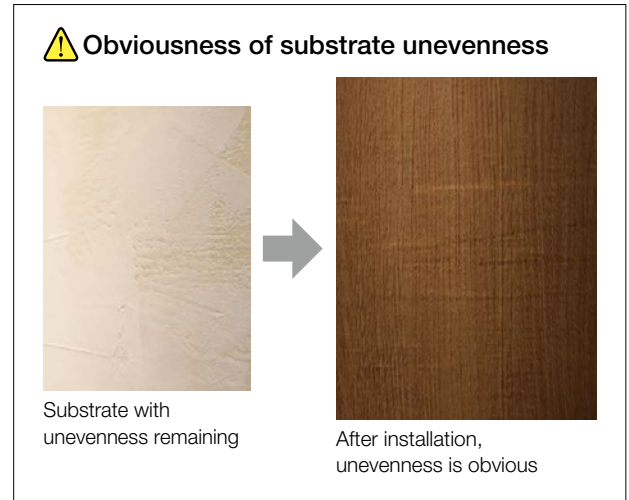
1 Adjustment of unevenness

Due to thin thickness, careful attention must be paid to adjusting for substrate.

(The smoothness of substrate should be at least "Class 2" according to the wallpaper-standard installation method. In particular, it should be "Class 1" when it is installed to a location that unevenness tends to be visible, such as downlights, indirect lights, or overhead lights.)

If there is a small foreign object, surface to be installed and the surrounding area (such as the floor) must be cleaned before starting installation.

*Installation conditions sometimes require full substrate treatment to prevent the visibility of unevenness. Please consult with stakeholders in advance and use the product.



Smoothness	Commentary	Types of wallpapers applicable for installation (Reference)
Class 1	Extremely smooth (mirrored)	Wallpapers such as Japanese Torinoko, chauntans, and reflected pattern
Class 2	Sufficient smoothness	Thin plain paper, fabric and vinyl wallpaper
Class 3	Normal smoothness	Paper pattern, medium-thick fabric, non-foamed vinyl
Class 4	Flat rough surface	Thick fabrics, foam and thick vinyl wallpaper

(Reference) Method of adjusting subfloor (excerpt from Wall Paper Standards installation Method, Wall Paper Study Group)

2 Adjusting substrate

Adjust properly depending on the material of substrate (see the table below). Be sure to check installation guide and handling precautions from the sub-materials manufacturers before using the sub-materials (sealer, bondings, moldproofing agent, rust proofing agent, etc.) used for adjusting substrate.

Substrate prep-work process	Plasterboard and Calcium silicate	Mortar and concrete	Plywood and MDF
1) Pre-processing	Elimination of projections and foreign matter, and adjustment of wavings, etc.	Check drying conditions, eliminate foreign substances, and adjust wavings, etc.	Elimination of projections and foreign matter, and adjustment of wavings, etc.
2) Putty treatment	Use of resins for top coatings	Use of resins for top coatings	Use of resins for top coatings
3) Putty polishing	#100 or more *1 Sand Paper	#100 or more *1 Sand Paper	#100 or more *1 Sand Paper
4) Surface cleaning	Clean with a brush, towel, etc.	Clean with a brush, towel, etc.	Clean with a brush, towel, etc.
5) Sealer processing	Water-based sealer (Yayoi Chemical Industry, Seaup, etc.)	Water-based sealer (Yayoi Chemical Industry, Seaup, etc.)	Water Sealer *2 (Yayoi Chemical Industry, Sealer 100+, etc.)

Substrate prep-work process	Steel and Stainless steel	Aluminum	Melamine and Polyester
1) Pre-processing	Elimination of rust and foreign materials, anti-rust treatment, etc.	Elimination of foreign substances and adjustment of wavings, etc.	Elimination of foreign substances and adjustment of wavings, etc.
2) Surface cleaning	Removal of surface stain, etc.	Removal of surface stain, etc.	Removal of surface stain, etc.
3) Sealer processing	—*2	—*2	—
4) Putty treatment	Use of resins for top coatings	Use of resins for top coatings	Use of resins for top coatings
5) Putty polishing	#100 or more *1 Sand Paper	#100 or more *1 Sand Paper	#100 or more *1 Sand Paper
6) Surface cleaning	Clean with a brush, towel, etc.	Clean with a brush, towel, etc.	Clean with a brush, towel, etc.
7) Pre-application of adhesive	Ethylene-vinyl acetate adhesive (Yayoi Chemical Industry, Prazole503S, etc.)	Ethylene-vinyl acetate adhesive (Yayoi Chemical Industry, Prazole503S, etc.)	Ethylene-vinyl acetate adhesive (Yayoi Chemical Industry, Prazole SS, etc.)

*1 Use #180 or more sandpaper for downlights, indirect lights, and windows where oblique lights enter (e.g. on the ceiling) as substrate unevenness is particularly likely to be visible.

*2 Use solvents-based sealers (Yayoi Chemical Industry, Primer K, etc.) depending on the situation.

2 Renovation work - substrate adjustment Installation cost will be increased

1 When REAL DECO is newly installed for renovation (replacement of existing wallpapers)

Be sure to carefully adjust the unevenness of substrate before the installation. If substrate is not adjusted sufficiently, a malfunction may occur due to the unevenness.

Refer to **1 Substrate of REAL DECO** on P.58 for the adjustment of the substrate.

2 In the case of replacement from an existing REAL DECO

REAL DECO can be peeled off between the layers of backing papers, similar to ordinary wallpapers. However, if you install REAL DECO again, make careful substrate adjustments as shown in the left. If REAL DECO is not forced to be peeled off and rolled over, always rough the surface of the existing REAL DECO with a sander (approx. #180) to remove the coated resin layer. For details on how to adjust substrate, refer to "Melamine and Polyester" on P.58.

(Note)

- Installation without roughening may cause delamination later.
- Installation (including overlapping) of the existing wallpapers without removal of all the backing papers will not be complied with a "fire-prevention finish".

3 Installation methods for REAL DECO

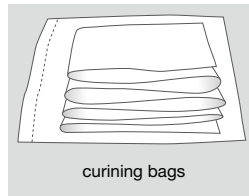
1 Adhesive

Use a wallpaper adhesive machine to apply "TOLI Pure Bond" on the back (Refer to P.71 for information on TOLI Pure Bond). If commercially available starch adhesive is used, it must contain a synthetic resin adhesive (bond) or use a product that is 10% added.

Reduce the applying amount to slightly less (120 to 140g/m²) than normal vinyl wallpaper.

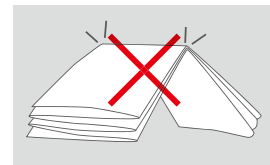
Adjust the applying amount depending on installation conditions.

To ensure that the adhesive at both ends of REAL DECO not to be dry, it is recommended to use curing tapes (cut tapes) and curing bags.



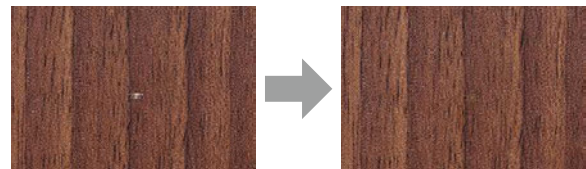
3 Precautions for transportation

If the material has concentrated pressure, the coating resin will be removed and the surface will be white. When transporting the material, take special care not to bend it at the center.



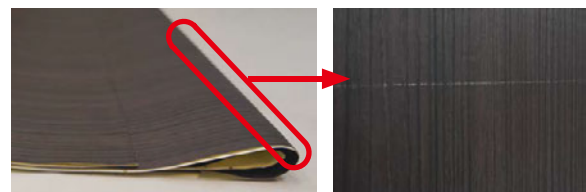
⚠ Whitening

When whitened, it is possible to make it invisible with an aftermarket pen, etc.



⚠ About wrinkle

When materials are collapsed sharply or accumulated in large quantities, a wrinkle can be generated.



2 Collapse and curing

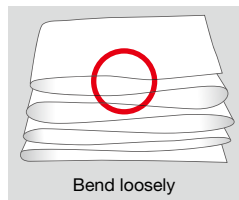
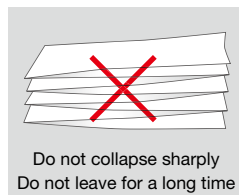
After applying the adhesive to the material, take appropriate open time and soften the material before installation. Don't collapse sharply or accumulate in large quantities. Broken wrinkles may occur in the curved part.

Open time: 15 to 20 minutes (approx.)

*Get longer open time (30 minutes or more) in low-absorbent substrate (sealer-coated surface, mortar, plywood, metal-sheet, etc.) or in winter. However, please note that excessive open time may cause unevenness by the adhesive.

Installation applicable time:
60 minutes (approx.)

*Please note that the time will be shorter in summer.




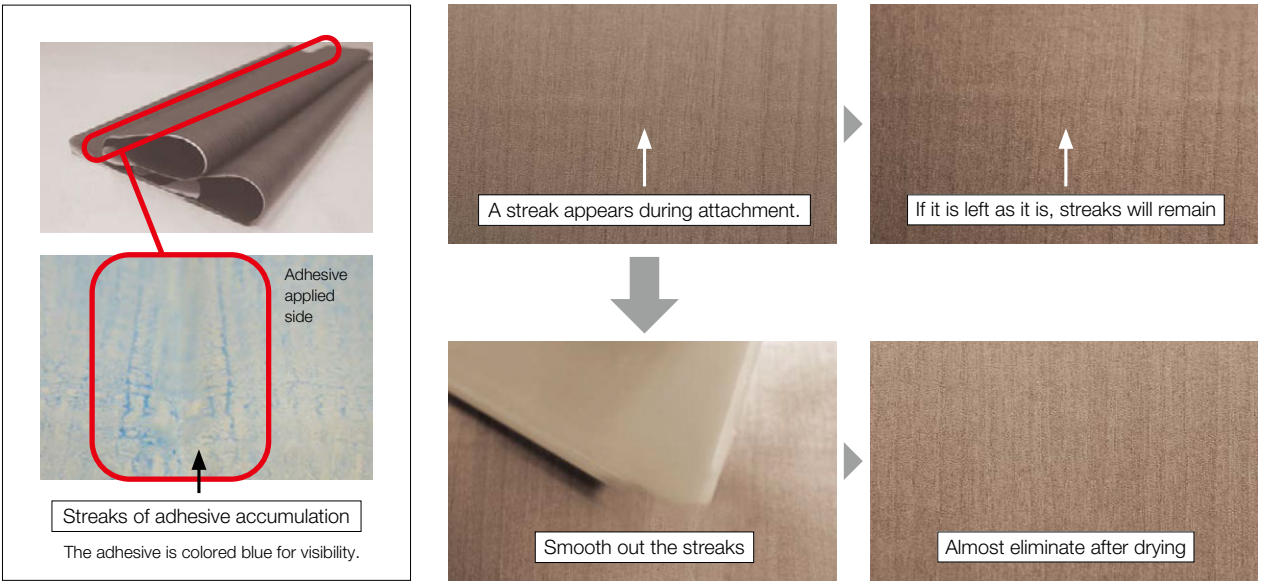
4 Air bleeding (Smooth down)

Use a brush or similar tool to remove air, and be careful not to get wrinkled. **Be sure to finish with a plastic brush (smoother) or roller in order to ensure that there are no streaks left by the adhesive accumulation.**

Downlights, indirect lights, and the surface where light enters through windows make it particularly easy to see unevenness due to adhesive accumulation. During installation, be sure to use lights to check that there are no defects.

In substrate (sealer coated surface, decorative plate, metallic plate, etc.) where water absorption is low, substrate is hard to absorb the moisture of the adhesive, and a bubble is created by the expansion of the wallpaper. Bleed air repeatedly. **If smoothed down horizontally, shrinkage (joint gap) will occur after installation, so be sure to perform it in the vertical direction.**

⚠ About the adhesive accumulation
Adhesive accumulation are particularly likely to appear in the  area.



Streaks of adhesive accumulation
The adhesive is colored blue for visibility.

A streak appears during attachment.

If it is left as it is, streaks will remain

Smooth out the streaks

Almost eliminate after drying

5 Finish the joint at the corner

Smooth down carefully so that air does not remain in the protruding corners.

It is easier to fit by using a soft, clean towel and holding it wider to give a corner while rubbing it with a towel. Be careful not to rub it too hard with scratches, etc., as this may cause whitening, wrinkles, etc.

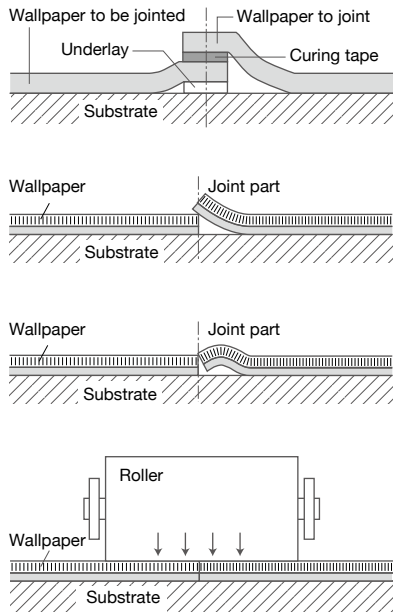
6 Finish the joint

Be sure to use an underlay for joints in a flat part and place them in an overlap-cutting (refer to the figure on the right). For gypsum boards or replacement substrate, note that cutting substrate surface will cause the opening of the joints. When finishing the joint, do not apply the roller as it is after cutting. After returning to the joint with your finger, gradually hold it down while applying the roller.

If the rollers are applied as they are, the thickness-gap may appear.

Reference material: Wall installation organization council issued
"Excellent technique for excellent wallpapers"

Finish the joint at flat part



Wallpaper to be jointed | Wallpaper to joint
Underlay | Curing tape
Substrate

Wallpaper | Joint part
Substrate

Wallpaper | Joint part
Substrate

Roller
Wallpaper | Substrate

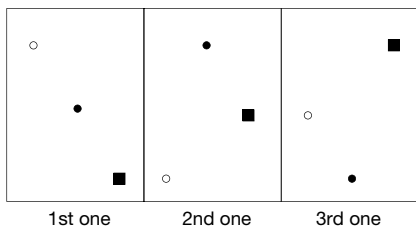
7 Pattern matching and repeat (Refer to P.73 to 76)

No pattern matching is required for product code without "repeat pattern matching" indication. Since the change in color pattern is small, the joint finish with the effective width creates a finish naturally. If there is a "repeat pattern matching" indication, match the pattern in the installation.

The one with "● Step" marking is a step pattern matching, so it is different from the common parallel pattern matching. Due to the wallpaper, some dimensional change will occur when it is moist. Therefore, please note that the repeat notation described on P.73 to 76 differ slightly from the repeat dimension when actually finished.

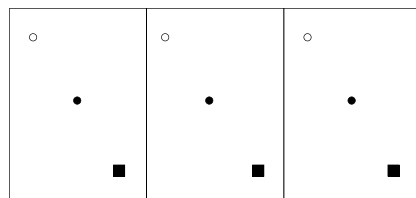
Note Depending on the part number and lot, there may or may not be edges (non-printed parts) on both ends of the product.

● Product code without "repeat pattern matching" indication (e.g.) WRW8284



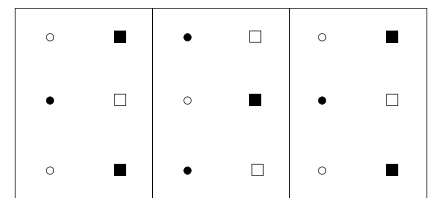
1st one 2nd one 3rd one

● Product code with "repeat pattern matching" indication (e.g.) WRW8283



1st one 2nd one 3rd one

● Product code with "Step pattern matching" indication (e.g.) WRW8246



1st one 2nd one 3rd one

The 1st and 3rd ones are finished with the same pattern at the same position.

8 Wipe off remaining adhesive

Wipe off any adhesive adhering to the surface with a cloth dampened with clean water and wipe it dry at the end. If there is residual adhesive, the gloss of the surface will change.

⚠ Note the following points in the downlight environment.

Downlights, indirect lighting, and light entering through windows make the unevenness particularly visible. In addition to substrate unevenness, adhesive accumulation at the time of installation may be visible as streaks. During installation, be sure to use lights to check that there are no defects.

Appearance of substrate unevenness (image)



Appearance of adhesive streaks (image)



When the wallpaper is installed three times, make sure that there are no substrate unevenness, adhesive streaks, or other issues by hitting light and so forth.

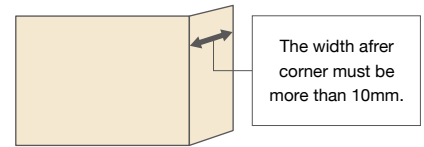
The image above shows the installation on substrate with substrate unevenness (putty mark) and adhesive streaks in horizontal direction. While not visible in a typical light environment, it is easy to see substrate unevenness and adhesive streaks in areas where the downlight hits.

4 REAL DECO over-the-corner installation

When REAL DECO is installed over the corner, make sure to take at least 10mm to cover after the corner.

REAL DECO has less surface-strength than HARDEC and other decorative films with adhesive.

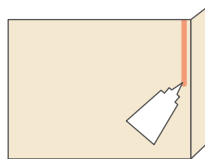
Be aware that scratches may occur due to friction or impact on parts that are touched frequently.



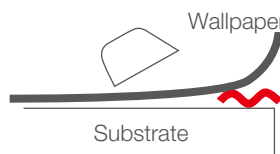
If the width after corner is 10 to 30mm, use Meji-Pita, strong adhesive for joints.

How to use the Meji-Pita

- 1) Before installing REAL DECO, apply Meji-Pita near the protruding corners of the wide surface.



- 2) Smoothly attach from a wide surface towards the outgoing corner. In doing so, be careful not to leave an unevenness by adhesive accumulation.



- 3) Hold with a smoother, roller, dry cloth, etc. so that the Meji-Pita is turned to the outgoing corner.



- 4) Make sure to adhere properly. If the corner part is not adhered enough, reapply Meji-Pita.



Meji-Pita (strong adhesive for joints)

Strong quick adhesion delivers beautiful bottom joint installation and over-the-corner installation of wallpapers.

Manufacturer:

YAYOI CHEMICAL INDUSTRY CO., LTD.

Content: 350 g

How to use: Apply to the substrate just before attaching the wallpaper, then crimp.

(Notes)

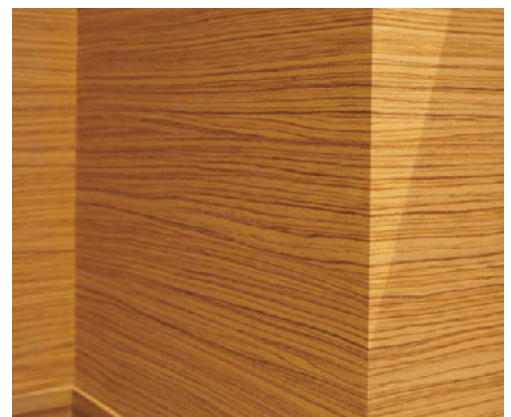
"Meji-Pita" is colored white before drying, but becomes transparent after drying. Wipe off any protruding parts.



5 Finishing the corners

REAL DECO produces a sharper finish than common wallpapers.

Be aware that if the outgoing corners are not straight, distortion and wrinkles may occur. Note that after installation, if the outgoing corners are rubbed repeatedly, whitening may occur.



[Outgoing corner photograph]

REAL DECO joint installation method

1 Bottom-joint installation Bottom joints are limited to one direction, ("vertical direction" or "horizontal direction")

Finish of bottom joint

Bottom joints can be made with substrate spaced apart or with plastic joint bars. Note that if a plastic joint bar is used, the finish will be slightly rounded (see the picture on the right), and the joint will be slightly raised.

[Bottom joint photograph]



Calcium silicate



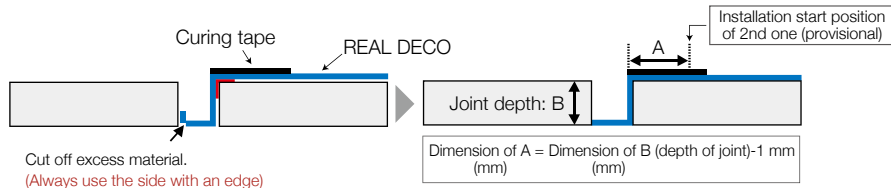
Plastic bottom-joint

1 Method of jointing at the bottom joint

- 1) Apply Meji-Pita, strong adhesive at corners of joints



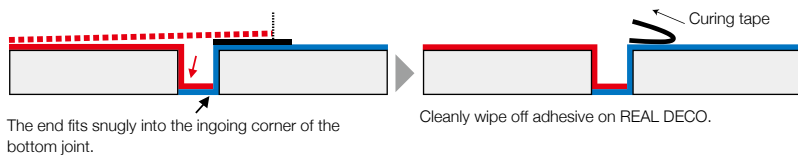
- 2) Install the 1st one, cut the excess material, and then apply the curing tape to the wallpaper surface (see the figure on the right). Then, determine the applying position of the 2nd one considering the depth of the joint.



- 3) Apply Meji-Pita just before attaching the 2nd one (two positions in the figure on the right), and then install the 2nd one.



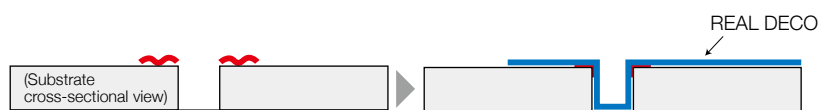
- 4) Firmly press down to the bottom joint, and finally peel off the curing tape.



2 Method to joint at a flat part

If the distance between the bottom joints is large, the width of REAL DECO is insufficient, so the joints cannot be connected at the bottom joints. Conversely, if the joint spacing is narrow, material loss will increase. In this case, joint at the flat part. In doing so, be sure to use an underlay and place it in a overlap-cutting.

- 1) Apply Meji-Pita to the corners of the joint (two points on the right). Then, firmly press the 1st down to the bottom joint.



- 2) Attach the 2nd one and perform the joint with overlap-cutting (use underlay). Install the putty part and the joint position as far as possible without overlapping.



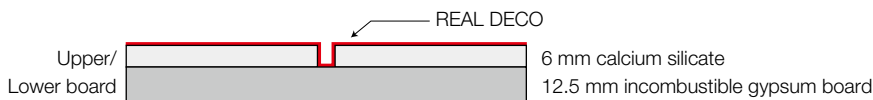
2 Bottom joint installation (substrate preparation)

The following are some examples of preparation of substrate for bottom joint installation method. Be sure to set the bottom joint in one direction only (vertical or horizontal direction). Note that if fire protection finish is required, the range of the fire protection finish varies depending on the property. Please check with the architect in charge beforehand.

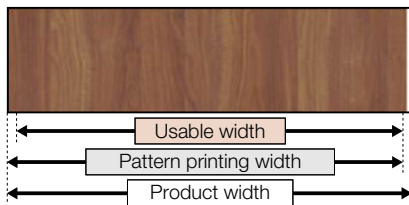
Double layered substrate fabrication methods (example) (Substrate is processed by the boarding contractor)

Attach the calcium silicate using double-sided tape together with adhesive, and nail or screw if necessary. For gypsum board substrate, apply adhesive to the entire surface and affix it with staples, etc. At that time, the joint of upper and lower board should be shifted.

1 Bottom joint (Joint width: approx. 5-10 mm)



For non-combustible finishes, use the materials shown in the 2000 Ministry of Construction notification No. 1400 (Japan) for both upper and lower board.
*Gypsum boards with a thickness of 12 mm or more, calcium silicate with a thickness of 5 mm or more, etc.

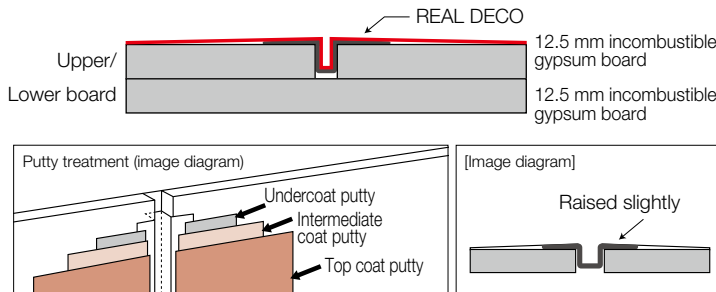


(Condition) 935 mm is the maximum width that can be used, assuming that the end of REAL DECO pattern print width (approx. 940 mm) is damaged by transportation, etc. (The effective width at normal installation is 920 mm.)

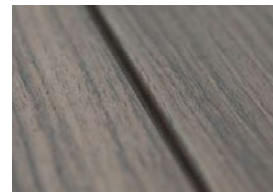
Usable width: 935 mm
Pattern printing width: Approx. 940 mm
Product width: Approx. 950 mm

An edge (without printing) is attached to one side of the product.
(Note) Depending on the product code and lot number, there may be one without ears or one with different pattern printing width or product width.
*The width and allocation of substrate should be determined after consultation for each property.

2 Use plastic joint bars



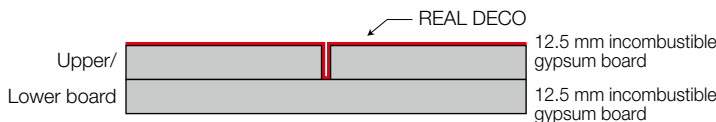
Note: When using a plastic bottom joint, the finish of edge will be slightly rounded.



Plastic joint bar

(Reference)
Plastic Joint Bar Manufacturer: SOKEN Co., Ltd.
Joint 3×5 mm

3 Insertion joints (Joint width: about 1 to 2 mm)



This is an installation way to insert REAL DECO with 1 to 2 mm clearance between substrate.

A typical substrate width (910mm) can be applicable to REAL DECO usable width (assumed to be 935 mm).

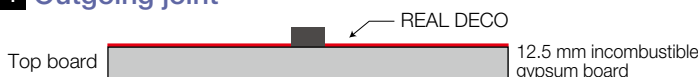


Joint

Installation of insertion joints] (Examples)

Carefully push it in using a thin (0.5 mm thick) strainer (see photo on the left). Be sure to use a Meji-Pita at the outgoing corner of the joint. Be careful not to leave floating by crimping with rollers, etc.

4 Outgoing joint



This is an installation way to affix decorative materials to substrate. Apply the joint material directly to substrate prior to REAL DECO installation.

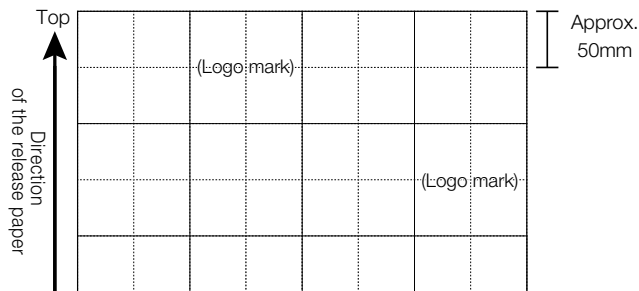
(Reference)
Outgoing Joint
Manufacturer: Sekisui Jushi Corp.
Meta-color building materials



HARDEC installation guide

1 Notes on installation

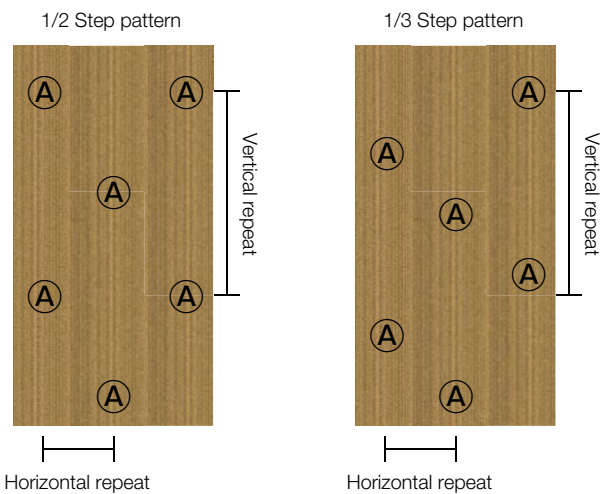
- Since the material is thin, care must be taken to adjust substrate unevenness. Please note that unevenness is particularly visible when installing downlights or indirect lighting, etc.
- Installation temperature range is from 10°C to 35°C. When the temperature is 10°C or less, the adhesive strength may decrease, causing the sheet to creep or float due to poor adhesion. Also, use a dryer together and crimp while warming the sheet.
- Be aware that at high temperatures, the material may become flexible, making it difficult to install. Be aware that when the temperature is low, it is easy to tear when cutting.
- Priming should be performed to improve the bonding strength of installation at the corners, and three-dimensional curves.
- In the case of overlap-cutting installation, a gap may be formed after installation, so apply primers two times to substrate of the joints. Be careful not to cut the substrate. Doing so may cause joint gap.
- When in layering installation, apply the primer to the part to be lapped and check that it is dry before installation. Be careful that the primer does not stick out when applying.
- Do not apply force to the surface of the product after installation. Wrinkling may occur. After installation, warm with a dryer to increase the bonding strength.
- For smooth and glossy patterns, the finish may deteriorate due to the effect of substrate. Perform test installation to check the finish.
- Always use corner substrate stiffeners at corners.
- Secure substrate completely with screws or tackers at the joints of the calcium silicate, gypsum board and plywood. Insufficient fixation may cause substrate to move during the crimping process, resulting in cracking of the putty.
- The sheet has a direction. Without matching the direction, the colors will look different at the seams. Align the logo mark on the release paper with the correct reading direction facing up.



- Use the grid as a guide for cutting, since release papers contain grids at intervals of approximately 50 mm vertically and horizontally.

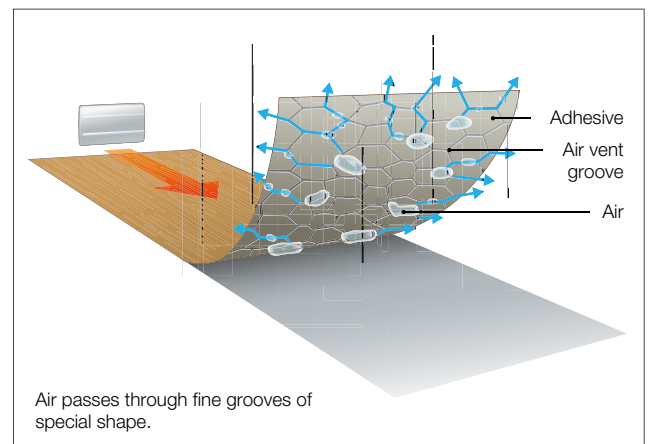
- If pattern matching is required, check the pattern and cut slightly longer.
- Like ordinary wallpapers, the sheets have repeats for all patterns, but it is devised to make the seams less noticeable when they are joined, considering the characteristics of the material. When considering pattern matching, please refer to the reference size of repeat. (Refer to P.76)

Type of pattern repeat



- When cutting or rewinding the sheet from the roll, place a thoroughly cleaned sheet-cutting underlay on the floor or work table to prevent scratches on the surface and dust/dirt from adhering due to static.
- Note that when the sheet is unwound from the roll, the release paper and the sheet may peel off if it is made flat.
- For temporary storage of the cut sheet, wind the release sheet so that it is inside, temporarily secure the end with masking tape, and then store it in a vertical position. In addition, avoid stacking the sheets on top of each other to prevent them from being scratched or creased.
- Use a squeegee during installation. Also, in some cases, use a soft cloth wrapped around it. This will prevent scratches on the surface.
- When stretching the sheet by bending, the expression may change or become white at low temperatures. Use a dryer together and install the sheet with care while warming the sheet.
- If adhesive tape or curing tape is left on the sheet surface for a long time, it may become solid and cannot be removed cleanly.

- Please note that if the product is overlaid on an existing decorative sheet for remodeling or other purposes in areas subject to interior restrictions, it will not be subject to the certification number as a non-combustible or semi-non-combustible material.
- Hybrid-type adhesive is used on the back surface of the sheet. Air bleeding during installation is easier than flat-type adhesive, but crimping should be done sufficiently.
- Compressed bonding should be performed sufficiently to achieve perfect bonding performance. If fine air remains between the sheet and the substrate material, even though it appears to be adhered in appearance, as the environmental temperature rises, the air may expand and cause a flake on the surface of the sheet.
- The adhesive on the back of the sheet is designed to increase adhesion to substrate over time. Be aware that depending on the type of substrate, the base material may be damaged when the sheet is removed by replacement or other means.



2 About adjusting substrate

1 About sealer processing

- Purpose of the sealer
 - ① In subfloor, where putty is difficult to adhere to by the base material, such as mortar or calcium silicate, a sealer is applied prior to putty treatment to increase adhesion to putty.
 - ② Prevents primer penetration into the substrate.
 - ③ Reduces the effects (discoloration, etc.) from substrate.
 - ④ Increases the strength of the substrate and putty.
- There are solvent and water based sealers. Choose and use the appropriate material depending on the conditions at the site, such as using a solvent type during a tight schedule, or using a water-based type at a site where solvents cannot be used.
- Ensure adequate ventilation when using a solvent type sealer. Keep flames away from the product to prevent it from igniting. Failure to do so may result in a serious accident.
- Water-based sealers should be carefully dried.
- For installation in areas subject to fire protection interior restrictions, pay attention to the amount of sealer applied (Refer to P.67 for reference amount of application).

2 Putty treatment

- The smoothness of substrate greatly affects the finish. In order to make 100% of HARDEC's expressions attractive, carefully adjust substrate by putty or sanding, etc., rather than in case of wallpaper.
- For putty treatment, consider the adhesion to the base material and select putty suitable for the base material. Basically, apply a primer (powder type with coarse putty ingredients), a medium coat (powder type with fine putty ingredients), and a finish coat (paste type: <common name>kneaded putty), and finish the base material smoothly. Adjust subfloor carefully, such as putty the entire surface depending on the base material.
- If the colors of substrate base material and putty differ, the colors may be uneven and greatly affect the finish. For finishing putty in particular, use one that matches the color of substrate.

3 About primer treatment

- Ensure adequate ventilation when using solvent type primers. Keep flames away from the product to prevent it from igniting. Failure to do so may result in a serious accident.
- For water-based primers, be careful with drying.
- For installation in areas subject to fire protection interior restrictions, pay attention to the amount of primer applied (Refer to P.67 for reference application quantity).

4 Substrate adjustment by base material

Substrate Adjustment Procedure \ Base material	MDF	Plywood	Gypsum board	Calcium silicate	Mortar
① Pre-processing	Treatment of anchor heads of nails and tackers, etc.				Surfacing by steel trowel
② Putty treatment	Polyester putty	[Subcoat] Excel II (Wallbond Industry)			
		[Finishing] Seal putty (Yayoi Chemical Industry), etc.			
③ Putty polishing	Sanding with sandpaper from #180 to #240				
④ Surface cleaning	Clean with a waste cloth, etc.				
⑤ Sealer processing	Sealer 100+ (Yayoi Chemical Industry), etc.		Primer K, Seaup, Sealer 100+ (Yayoi Chemical Industry), etc.		
⑥ Primer treatment	Recommended product: Belbien primer Z (Takiron CI)		Recommended product: Belbien primer Z, Belbien water-based primer (Takiron CI)		Recommended product: Belbien Primer Z (Takiron CI)

Substrate Adjustment Procedure \ Base material	Stainless steel	Aluminum (alumite treatment)	Zinc-plated steel	Coated steel	PVC steel	Melamine Polyester	Glass
① Pre-processing	Removal of oil and grease components and stains		Removal of rust, oil and grease components and stains	Checking the paint layer (Note 1)	Confirmation of surface layer (Note 2)	—	—
② Putty treatment	Polyester putty						—
③ Putty polishing	Sanding with sandpaper from #180 to #240						—
④ Surface cleaning	Clean with alcohol or lacquer thinner			Clean with alcohol or neutral detergent	Clean with alcohol or lacquer thinner		
⑤ Sealer processing	—						
⑥ Primer treatment	Recommended product: Belbien primer Z (Takiron CI)						—

Note 1 : Depending on the type of painting, components that inhibit adhesion may be included. In addition, oil-based paint, etc. may swell when primer is applied. Such paint layers should be polished to direct install to subfloor metals.

Note 2 : The PVC layer on the surface may deteriorate and interfere with the adhesion. We recommend that the PVC layer be polished and install directly onto substrate metal. Also, if you apply primer to the vinyl chloride layer, work quickly to prevent swelling and let it dry completely.

Recommended primer

Product name	Belbien primer Z (Takiron CI)	Belbien water-based primer (Takiron CI)
Main component	Synthetic rubber	Synthetic rubber
How to use	Used as the undiluted solution	Undiluted solution 1: Water 2 to 3 dilution
Reference coating quantity	10m ² or more/L	15m ² or more/L
Color	Light yellow	Green white
Solid content	About 10%	46 to 51%
F☆☆☆☆	JIS A 5549 (Adhesive)	JAIA010805 (registered by the Adhesive Manufacturers Association)
Precautions	This product is classified as Class 4 Class 1 Oil (II). Strictly observe the storage limits of the Fire Defense Law and pay attention to the warning labels. Toluene and xylene are not used.	No organic solvents are contained, so there is no risk of ignition. If frozen, performance will not be achieved.

5 Reference coating amount of sealer and primer (example)

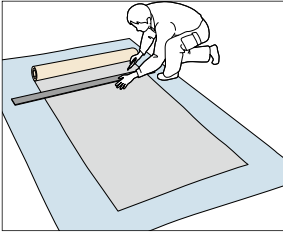
	Product name	Reference for dilution	Application method
Sealer	Sea-up (Yayoi Chemical Industry)	Double dilution	Thin and uniformly applied "Apply once with brush" as a guide
	Sealer 100+ (Yayoi Chemical Industry)	Double dilution	
Primer	Belbien water-based primer (Takiron CI)	3 to 4-fold dilution	Thin and uniformly applied (Refer to the table above for the amount of coating.)
	Belbien primer Z (Takiron CI)	Stock solution	

3 Installation of HARDEC

Wall (Flat area)

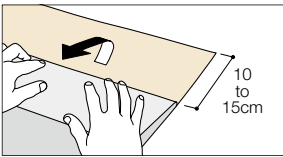
1. Sizing and cutting

Accurately measure the dimensions of the part to install. As an allowance, cut both the vertical and horizontal edges 5 to 10 cm larger than the required dimensions.



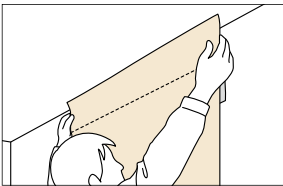
2. Peel off, fold the release paper

Peel off the release paper on the back 10 to 15 cm from the top end and then fold it back.



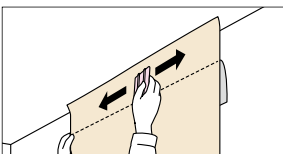
3. Point crimping

Hold HARDEC in an installing position, determine the whole position, and then point-crimp the part from which the release paper is peeled off with fingertips.



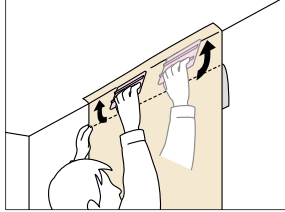
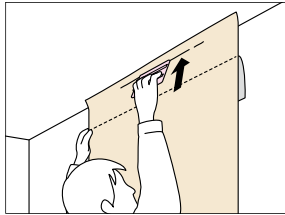
4. Temporary crimping

Apply a squeegee to the folded part of the release paper and temporarily crimp it to the substrate.



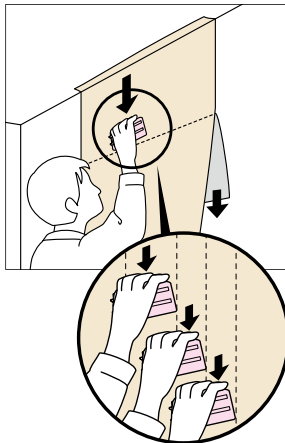
5. Fixing

Use the edge of the squeegee to fix it to the substrate while crimping the boundary with the ceiling. Then, crimp from the center toward the right and left directions.



6. Applying

Gradually peel off the release paper about 20 to 30cm each time. While gently pulling HARDEC downward from the top, crimp it with a squeegee so that air is pushed out from the top to the bottom.



7. Finishing

Crimp the whole part again and cut off the excess part.

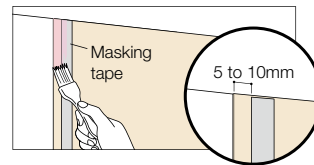
Overlap installation

1. Install 1st one of HARDEC

For installation, refer to "3-1 Wall (Flat area)" .

2. Attaching the masking tape

In order to apply the primer to the overlying part, leave this part and affix the masking tape. Lap width is 5 to 10 mm.

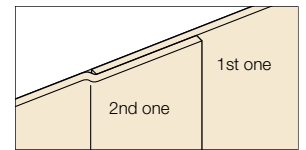


3. Primer application

Apply primer to the overlying part.

4. Install 2nd one of HARDEC by overlapping

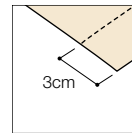
After the primer dried thoroughly, peel off the masking tape and start the installation of 2nd one.



Overlap-cutting (Caution) Do not overlap the joint with the putty processing part.

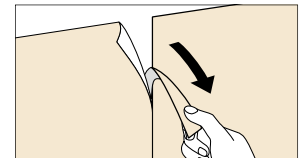
1. Cutting of release paper(1st one)

Cut the release paper of the part to be overlaid in advance and leave it without peeling off. The cutting position should be about 3cm from the edge.



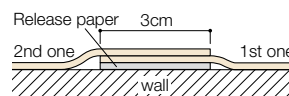
4. Remove unnecessary parts

Remove unnecessary parts and release paper.



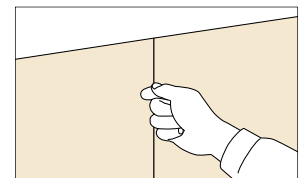
2. Attaching HARDEC

After finishing installation of the 1st one, lay the 2nd one of HARDEC on top of each other. In order to minimize joint gap after installation, leave the joint overlapped for a while (1 day or more).



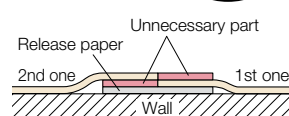
5. Flatten the overlapped edges

While temporarily crimping the joint part from top to bottom with fingers, make the edges overlap and smooth.



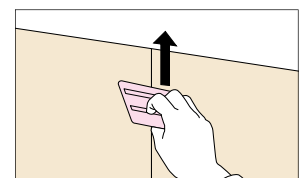
3. Cutting of overlapped parts

Apply a ruler to the center of the overlapped part and cut with a cutter knife. Be careful not to cut into the substrate at this time.



6. Crimping

Crimp the joint using a squeegee or roller.



Accessories installation guide

This section describes installation procedure in case installed with REAL DECO.

1 Adjusting substrate and pasting the Double-sided tape for REAL DECO accessories (Molding and Baseboard) tape installation

1 Checking substrate

Begin installation after checking the dry condition of the walls and floors (wall surface: 11% or less, floor surface: 8% or less as a guideline). If the substrate has moisture, it may cause problems such as haggling, discoloration, warping and thrusting of parts. In substrate as shown below, be sure to perform appropriate sealer treatment before starting installation.

- Plywood subfloor, concrete/mortar subfloor, calcium silicate subfloor, metals, plaster, fiber walls, etc.
- If REAL DECO is required to finish as fire retardant.

2 Adjusting substrate

Perform putty treatment carefully. In addition, be sure to perform sealer processing on the putty processing section.

Caution REAL DECO must have sufficient care to adjust substrate unevenness.
(Refer to P.58 for details on how to adjust substrate.)

3 Substrate treatment on REAL DECO accessories (molding and baseboard) installation (pre-application of adhesive)

Dilute synthetic resin-based adhesive (e.g., ethylene vinyl chloride bonds) with 10 to 20% of water at the area where the double-sided tapes are applied, and apply them evenly using brush, roller, etc. After applying, dry thoroughly.

Caution Be sure to apply pre-application adhesive to any parts other than new plasterboards (plywood substrate, concrete/mortar substrate, etc.) and putty treatment parts. Installation without pre-application adhesive may cause defective material adhesion.

4 Attaching Double-sided tape for REAL DECO accessories (molding and baseboard) installation

Attach installation double-sided tape "WU-TAPE-15" to REAL DECO baseboard at install position about 3cm from the floor (on substrate). For molding, attach about 5cm lower from finished height.

Note: If you install REAL DECO first, starch glue will adhere to substrate and it will be needed to wipe it off.

Caution Be sure to attach the double-sided tape directly to substrate. For renovation, peel existing wallpapers including the backing and be sure to apply sealer.

Caution After attaching the double-sided tape, securely crimp it using a roller. Do not remove the paper from the surface of the double-sided tape (the side in contact with REAL DECO baseboard) at this point.

2 Installation of REAL DECO

Take an open time of about 15 to 20 minutes before installation. Installation duration should be 60 minutes (reference). (Refer to P.58 to 64 for detailed installation methods.) For install parts of REAL DECO's baseboard, cut off REAL DECO about 5cm from the floor. When attaching REAL DECO corner material directly to substrate, install the wallpaper leaving 1.5 cm from the corner. In addition, when applying REAL DECO corner material on REAL DECO, be sure to keep a distance of at least 10cm from REAL DECO's joints.

3 Installation of REAL DECO molding/baseboard corner material

First, apply the adhesive to the section, peel off the release paper of double-sided tape at the substrate at outgoing corner, and install with the adhesive.

*Use "WMPX-1" for the adhesive.

*Apply an appropriate amount of adhesive to (baseboard) above and below the double-sided tape, (molding) below the double-sided tape, respectively.



Molding corner material



Baseboard corner material

4 Installation of REAL DECO molding/baseboard

After accurately cutting REAL DECO molding/baseboard to the required dimensions, remove the release paper from the double-sided tape. Be sure to install with adhesive.

*Use "WMPX-1" for the adhesive.

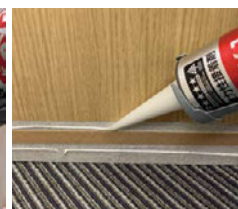
*Apply an appropriate amount of adhesive to (baseboard) above and below the double-sided tape, (molding) below the double-sided tape, respectively.

*When affixing REAL DECO molding/baseboard, make sure that the adhesive does not go to double-sided tape part.

Caution Be sure to apply adhesive in order for the substrate and REAL DECO molding/baseboard to be adhered, do not let adhesive go to the wall paper.



Molding installation part



Baseboard installation part

Also, apply adhesive to the joints (sides) of REAL DECO molding/baseboard on the entire surface, and peel off the release paper of double-sided tape while it is dry before installation.

If REAL DECO molding/baseboard is cut long and forcibly pressed in, it may float or become loose later. Adjust the length using a planer, file, etc. After confirming that the installed position of REAL DECO molding/baseboard is correct, crimp it sufficiently.

Finally, attach a nail (or a tucker, etc.) to REAL DECO molding/baseboard and fix it securely.

Place nails, etc., around 2 to 3cm at both ends of REAL DECO molding/baseboard and at a distance of 40 to 50cm between them evenly.

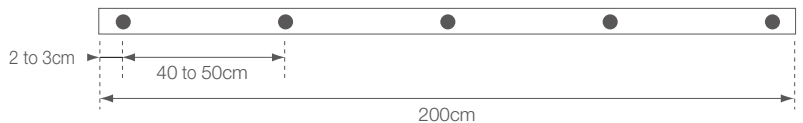


Apply adhesive to the sides.

*Wipe off the protruding adhesive as soon as possible.

Nailing of needle

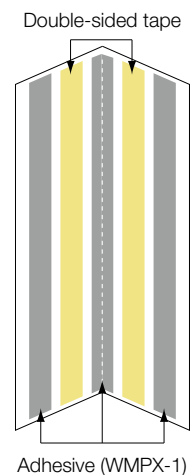
(Example)



5 Installation of REAL DECO corner material

REAL DECO corner material can also be install overlaid on top of REAL DECO.

The backing of REAL DECO corner material is pre-attached with double-sided tape. Be sure to use adhesive "WMPX-1" for installation together. First, accurately measure and cut the dimensions at the point where the REAL DECO corner material is installed. Next, apply adhesive to the three points on the backing of the REAL DECO corner material (see the diagram on the right). Then, peel off the release paper of the double-sided tape and install. Note that if the REAL DECO corner material is longer and forcibly pressed in, it may cause later floating or loosening. Adjust the length using a file, etc. Crimp the REAL DECO corner material sufficiently so that no gap can be seen from the side. If adhesive sticks out, wipe it off quickly.



Caution Although the adhesive strength is sufficient even when overlaid, REAL DECO may peel off if excessive force is applied. If you expect such a situation in advance, use adhesive "WMPX-1" together and attach the REAL DECO corner material directly to substrate. If REAL DECO has already been installed, remove all the wallpapers from installing part, up to 1.5cm from the exit corner, completely expose substrate surface, perform appropriate substrate treatment, and use "WMPX-1" together to affix.

<Remark>

If the top of the REAL DECO corner material is lower than your eyes, the color of the small edge (cut surface) may be visible. If this happens, use a commercially available repair pen to repair it.



6 Cleaning and repair

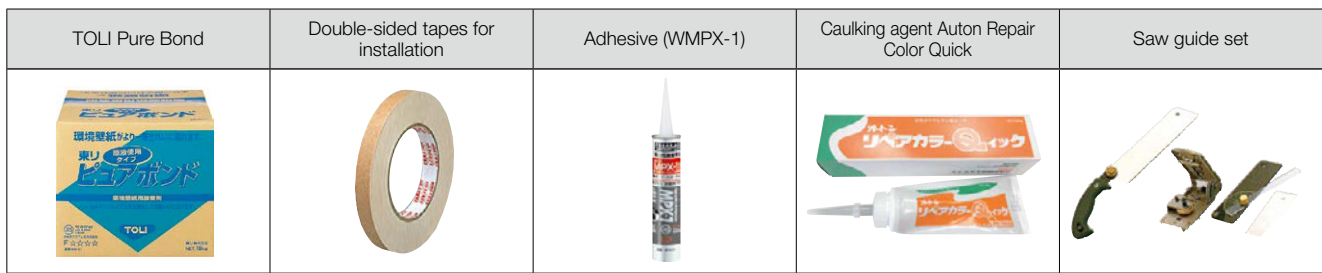
Wipe off any adhesive or stain adhering to the surface immediately with a cloth dampened with clean water.

Repair parts where REAL DECO molding/baseboard joints are noticeable with commercially available repair pens, etc.

Repair REAL DECO molding/baseboard/corner material gap or nailed area with caulking agent.

Related materials and sub-materials

Parts and sub-materials name	Product code	Size	Order unit
TOLI Pure Bond	WN01	18 kg/box (Installation of approx. 80 to 100 m ² is available in one box)	1 box
Double-sided tapes for Installation	WU-TAPE-15	15 mm width ×10m	1 roll
Adhesive	WMPX-1	333 ml/pc	1 pc
Caulking agent	ORC101 to ORC156	200g/pc	1 pc/box
Saw guide set (saw guide, saw, protractor, dummy plate)	WUT1	<ul style="list-style-type: none"> ■ Ribbing blades: 265mm ■ Saw guide : 45° to the right and left, and 45° to the front and back tilt is free to be angled, 10mm in thickness, and supports objects to be cut up to 60mm in width. 	1 set



Typical applied quantity of adhesive (WMPX-1) (reference)		Installation length per piece	
REAL DECO molding	12ml/m	Approx. 24m (for approx. 12 moldings)	
REAL DECO baseboard	24ml/m	Approx. 12m (approx. 6 baseboard)	
REAL DECO corner material	18ml/m	Approx. 16m (for approx. 6 corner materials)	

1 TOLI Pure Bond Undiluted-use type

TOLI Pure Bond is adhesive (starch paste) for wallpaper installation. Compared to the common adhesive, synthetic resin-based adhesive has a higher proportion, which reduces the occurrence of rubble and gap. Stable finish due to the type of undiluted-use. Do not dilute with water. Use as it is.

<Handling precautions>

- ① Do not dilute with water and use as it is.
- ② Do not use it for anything other than gluing.
- ③ Do not use adhesive in low temperatures below 5°C, as it will not demonstrate its performance.
- ④ Smoothly finish substrate using a putty for wall covering before installation.
- ⑤ If substrate is other than gypsum boards (mortar/concrete, plywood, metallic substrate, etc.), use a sealer or mold-proofing agent for wall covering properly before installation.
- ⑥ Make sure that substrate is sufficiently dry before the installation.
- ⑦ After application to the wallpaper, take appropriate open time according to the conditions of wallpaper, substrate etc. Also, adjust the application quantity according to the environmental and installation conditions.
- ⑧ Wipe off immediately if it protrudes from the joint or if it adheres to other interior materials.

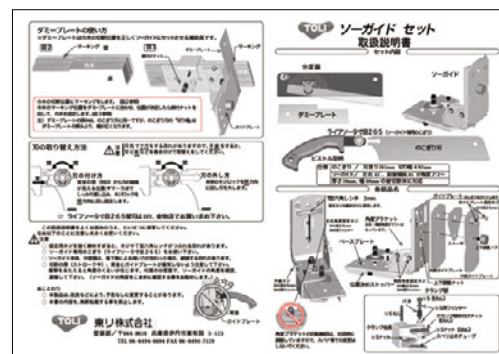
- ⑨ Do not subject the product to sudden environmental changes during installation or after completion of installation, and let the product dry naturally until the adhesive stabilizes.
- ⑩ After drying, provide adequate ventilation.

2 Caulking agent Auton Repair Color Quick

For filling gaps in the in-going corners and joints between materials. Note that it does not cover all colors of REAL DECO.

3 Saw guide set

Use when cutting REAL DECO baseboard. The instruction manual for the saw guide set "WUT1" is included with the product.



Instruction manual (excerpt)

Previous / New product code chart

REAL DECO Previous ▶ New

Previous	New
WRW6001	WRW8244
WRW6002	WRW8245
WRW6003	
WRW6004	
WRW6005	
WRW6006	WRW8278
WRW6007	WRW8286
WRW6008	WRW8301
WRW6009	WRW8300
WRW6010	WRW8285
WRW6011	
WRW6012	WRW8242
WRW6013	WRW8243
WRW6014	
WRW6015	WRW8246
WRW6016	WRW8247
WRW6017	
WRW6018	WRW8248
WRW6019	
WRW6020	
WRW6021	
WRW6022	
WRW6023	
WRW6024	WRW8249
WRW6025	WRW8313
WRW6026	
WRW6027	WRW8250
WRW6028	WRW8251
WRW6029	
WRW6030	
WRW6031	WRW8252
WRW6032	WRW8253
WRW6033	WRW8254
WRW6034	WRW8255
WRW6035	WRW8256
WRW6036	WRW8257
WRW6037	WRW8262
WRW6038	WRW8263
WRW6039	WRW8258
WRW6040	
WRW6041	WRW8261
WRW6042	WRW8259
WRW6043	WRW8260
WRW6044	WRW8264
WRW6045	WRW8267
WRW6046	
WRW6047	WRW8273
WRW6048	WRW8269
WRW6049	WRW8268
WRW6050	WRW8265
WRW6051	
WRW6052	WRW8272
WRW6053	WRW8266
WRW6054	WRW8271
WRW6055	WRW8270
WRW6056	WRW8274
WRW6057	WRW8275
WRW6058	WRW8276
WRW6059	WRW8282
WRW6060	WRW8279
WRW6061	
WRW6062	WRW8283
WRW6063	WRW8277
WRW6064	WRW8280
WRW6065	WRW8281
WRW6066	WRW8284
WRW6067	WRW8288
WRW6068	WRW8287
WRW6069	WRW8289
WRW6070	WRW8290

Previous	New
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WRW6072	WRW8293
WRW6073	WRW8296
WRW6074	WRW8294
WRW6075	WRW8291
WRW6076	WRW8297
WRW6077	WRW8295
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WRW6081	WRW8302
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WRW6136	WRW8349
WRW6137	WRW8350
WRW6138	WRW8351
WRW6139	WRW8352
WRW6140	WRW8353

Previous	New
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WRW6163	WRW8368
WRW6164	WRW8369
WRW6165	WRW8225
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WRW6168	WRW8228
WRW6169	WRW8229
WRW6170	WRW8230
WRA6201	WRA8032
WRA6202	WRA8033
WRA6203	WRA8034
WRA6204	WRA8035
WRA6205	WRA8036
WRA6206	WRA8037
WRA6207	WRA8018
WRA6208	WRA8019
WRA6209	WRA8020
WRA6210	WRA8021
WRA6211	WRA8022
WRA6212	
WRA6213	WRA8025
WRA6214	WRA8026
WRA6215	
WRA6216	WRA8051
WRA6217	WRA8047
WRA6218	
WRA6219	WRA8048
WRA6220	
WRA6221	
WRA6222	
WRA6223	WRA8049
WRA6224	
WRA6225	WRA8050
WRA6226	WRA8041
WRA6227	WRA8042
WRA6228	WRA8043
WRA6229	WRA8044
WRA6230	WRA8046
WRA6231	WRA8045
WRA6232	WRA8054
WRA6233	WRA8055
WRA6234	WRA8056
WRA6235	WRA8059
WRA6236	WRA8057
WRA6237	WRA8060
WRA6238	WRA8052
WRA6239	WRA8053
WRA6240	

HARDEC Previous ▶ New

Previous	New
DEC6015	DEC8246
DEC6016	DEC8247
DEC6044	DEC8264
DEC6049	DEC8268
DEC6050	DEC8265
DEC6053	DEC8266
DEC6055	DEC8270
DEC6056	DEC8274
DEC6066	DEC8284
DEC6067	DEC8288
DEC6069	DEC8289
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DEC6078	DEC8299
DEC6079	DEC8298
DEC6081	DEC8302
DEC6087	DEC8304
DEC6090	DEC8315
DEC6091	DEC8309
DEC6102	DEC8320
DEC6103	DEC8321
DEC6106	DEC8324
DEC6110	DEC8329
DEC6112	DEC8328
DEC6115	DEC8330
DEC6120	DEC8335
DEC6121	DEC8338
DEC6128	DEC8340
DEC6129	DEC8341
DEC6131	DEC8343
DEC6133	DEC8346
DEC6137	DEC8350
DEC6139	DEC8352
DEC6143	DEC8357
DEC6144	DEC8360
DEC6151	DEC8361
DEC6154	DEC8364
DEC6156	DEC8370
DEC6162	DEC8367

Productline table

■ Fire protection performance

Incombustible substrate Incombustible gypsum board	Semi-incombustible ground	Metal substrate (Excluding aluminum)	Category
NM-3958-2	QM-0809-2	NM-3959-2	1-4

REAL DECO

Product code	Design	Wood pattern type	Effective width (cm)	Repeat			Coordination		REAL DECO Accessories					
				Length (cm)	Width (cm)	Repeat pattern matching	HARDEC	ROYAL STONE/ WOOD	Molding	Molding corner material	Baseboard	Baseboard corner material	Corner Material	
WRA8001	Concrete	-	92.6	95	185.2	● step								
WRA8002	Concrete	-	92.6	95	185.2	● step								
WRA8003	Concrete	-	92.6	95	185.2	● step								
WRA8004	Concrete	-	92.6	95	185.2	● step								
WRA8005	Concrete	-	92.6	95	185.2	● step								
WRA8006	Concrete	-	92.6	95	185.2	● step								
WRA8007	Mortar	-	92.6	80	185.2	● step								
WRA8008	Mortar	-	92.6	80	185.2	● step								
WRA8009	Mortar	-	92.6	95	92.6									
WRA8010	Concrete	-	92.6	125	92.6	●		PST3050						
WRA8011	Concrete	-	92.6	125	92.6	●		PST3051						
WRA8012	Mortar	-	92.6	95	92.6	●								
WRA8013	Mortar	-	92.6	95	92.6	●								
WRA8014	Mortar	-	92.6	95	92.6	●								
WRA8015	Metal	-	92.6	95	92.6	●								
WRA8016	Metal	-	92.6	95	92.6	●								
WRA8017	Metal	-	92.6	95	92.6	●								
*WRA8018	Concrete	-	92.6	95	185.2	● step								
*WRA8019	Concrete	-	92.6	95	185.2	● step								
*WRA8020	Concrete	-	92.6	95	185.2	● step								
WRA8021	Mortar	-	92	95										
WRA8022	Mortar	-	92	95										
*WRA8023	Slate	-	92.6	125	92.6	●								
*WRA8024	Slate	-	92.6	125	92.6	●								
*WRA8025	Slate	-	92.6	125	92.6	●								
*WRA8026	Slate	-	92.6	125	92.6	●								
WRA8027	Marble	-	92.6	94	92.6	●		PST3093						
WRA8028	Marble	-	92.6	94	92.6	●		PST3094						
*WRA8029	Marble	-	92.6	123	185.2	● step								
*WRA8030	Marble	-	92.6	123	185.2	● step								
*WRA8031	Marble	-	92.6	123	185.2	● step								
*WRA8032	Marble	-	92.6	95	92.6	●								
*WRA8033	Marble	-	92.6	95	92.6	●								
*WRA8034	Marble	-	92.6	95	185.2	● step								
*WRA8035	Marble	-	92.6	95	185.2	● step								
*WRA8036	Marble	-	92.6	95	92.6	●								
*WRA8037	Marble	-	92.6	95	92.6	●								
WRA8038	Oya stone	-	92.6	95	185.2	● step								
*WRA8039	Stucco	-	92.6	95	92.6	●								
*WRA8040	Stucco	-	92.6	95	92.6	●								
*WRA8041	Stucco	-	92.6	95	92.6	●								
*WRA8042	Stucco	-	92.6	95	92.6	●								
*WRA8043	Stucco	-	92.6	95	92.6	●								
*WRA8044	Stucco	-	92.6	95	92.6	●								
*WRA8045	Stucco	-	92.6	95	92.6	●								
*WRA8046	Stucco	-	92.6	95	92.6	●								
*WRA8047	Rust	-	92.6	80	185.2	● step								
*WRA8048	Rust	-	92.6	80	185.2	● step								
*WRA8049	Metal	-	92.6	95	185.2	● step								
*WRA8050	Metal	-	92.6	95	185.2	● step								
*WRA8051	Rust	-	92.5	95	92.5	●								
WRA8052	Woven fabric	-	92	94										
WRA8053	Woven fabric	-	92	94										
*WRA8054	Sandstone block	-	92	95	184	● step								
*WRA8055	Sandstone block	-	92	95	184	● step								
*WRA8056	Sandstone	-	92	95	184	● step								
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*WRA8058	Sandstone	-	92	95	184	● step								
*WRA8059	Sandstone	-	92	95	184	● step								
*WRA8060	Sandstone	-	92	95	184	● step								
*WRW8201	Oak	Plank	92.6	95										
*WRW8202	Oak	Plank	92.6	95										
*WRW8203	Oak	Plank	92.6	95										
*WRW8204	Walnut	Plank	92.6	95	185.2	● step								
*WRW8205	Walnut	Plank	92.6	95	185.2	● step								
*WRW8206	Walnut	Plank	92.6	95	185.2	● step								
WRW8207	Elm	Edge grain	92	110										
WRW8208	Elm	Edge grain	92	110										
WRW8209	Elm	Edge grain	92	110										
*WRW8210	Cherry	Straight-grained	92	123										
*WRW8211	Cherry	Straight-grained	92	123										
*WRW8212	Maple	Straight-grained	92	124										
*WRW8213	Maple	Straight-grained	92	124										
*WRW8214	Walnut	Straight-grained	92	123										
*WRW8215	Walnut	Straight-grained	92	123										
*WRW8216	Walnut	Straight-grained	92	123										
*WRW8217	Walnut	Straight-grained	92	123										
*WRW8218	Walnut	Straight-grained	92	123										
*WRW8219	Walnut	Straight-grained	92	123										

■ Fire protection performance

Incombustible substrate Incombustible gypsum board	Semi-incombustible ground	Metal substrate (Excluding aluminum)	Category
NM-3958-2	QM-0809-2	NM-3959-2	1-4

REAL DECO

Product code	Design	Wood pattern type	Effective width (cm)	Repeat			Coordination		REAL DECO Accessories					
				Length (cm)	Width (cm)	Repeat pattern matching	HARDEC	ROYAL STONE/ WOOD	Molding	Molding corner material	Baseboard	Baseboard corner material	Corner Material	
*WRW8220	Walnut	Straight-grained	92	123										
*WRW8221	Oak	Grain	92.6	125		●		PWT3206						
*WRW8222	Oak	Grain	92.6	125		●		PWT3207						
WRW8223	Oak	Grain	92.6	125										
WRW8224	Oak	Grain	92.6	125										
WRW8225	Ash	Straight-grained	92	123										
WRW8226	Ash	Straight-grained	92	123										
WRW8227	Ash	Straight-grained	92	123										
*WRW8228	Walnut	Straight-grained	92	95										
*WRW8229	Walnut	Straight-grained	92	95										
*WRW8230	Walnut	Straight-grained	92	95										
WRW8231	Elm	Straight-grained	92	95										
WRW8232	Elm	Straight-grained	92	95										
WRW8233	Cherry	Plank	92	95										
WRW8234	Cherry	Plank	92	95										
WRW8235	Walnut	Straight-grained	92	95										
WRW8236	Walnut	Straight-grained	92	95										
WRW8237	Walnut	Straight-grained	92	95										
WRW8238	Oak	Edge grain	92	123										
WRW8239	Oak	Edge grain	92	123										
WRW8240	Oak	Edge grain	92	123										
WRW8241	Oak	Edge grain	92	123										
WRW8242	OSB	-	92	123										
WRW8243	OSB	-	92	123										
*WRW8244	Oak	Plank	92.6	123	185.2	● step								
*WRW8245	Oak	Plank	92.6	123	185.2	● step								
*WRW8246	Aged wood(Oak)	Plank	92	95	184	● step	DEC8246							
*WRW8247	Aged wood(Oak)	Plank	92	95	184	● step	DEC8247							
*WRW8248	Aged wood(Oak)	Plank	92	95	184	● step								
*WRW8249	Aged wood	Plank	92	95	184	● step								
*WRW8250	Pine	Plank	92	123		●								
*WRW8251	Mixed wood	Block	92.5	95	185	● step								
WRW8252	Cypress	Random edge grain	92	110										
WRW8253	Cypress	Random edge grain	92	110										
WRW8254	Cypress	Edge grain	92	95										
WRW8255	Cypress	Edge grain	92	95										
*WRW8256	Castor aralia	Edge grain	92	95										
*WRW8257	Castor aralia	Edge grain	92	95										
WRW8258	Kurumi walnut	Straight-grained	92.6	125	92.6	●								
*WRW8259	Japanese oak	Plank	92.6	95	92.6	●								
*WRW8260	Japanese cedar(Uzukuri texture)	Grain	92	95		●								
WRW8261	Nara Japanese oak	Edge grain	92	95					WRK8261	WRE8261	WRH8261	WRT8261	WRC8261	
WRW8262	Nara Japanese oak	Random edge grain	92	95										
WRW8263	Nara Japanese oak	Random edge grain	92	95										
WRW8264	Zebra wood	Edge grain	92	60			DEC8264	PWT3277						
WRW8265	Zebra wood	Edge grain	92	60			DEC8265	PWT3278	WRK8265	WRE8265	WRH8265	WRT8265	WRC8265	
WRW8266	Walnut	Edge grain	92	80			DEC8266							
WRW8267	Oak	Random edge grain	92	100										
WRW8268	Oak	Edge grain	92	123			DEC8268							
WRW8269	Pecan	Grain	92.6	125	92.6	●								
WRW8270	Maple	Random edge grain	92	95			DEC8270							
WRW8271	Cherry	Random edge grain	92	95										
*WRW8272	Camphor wood	Random edge grain	92	100										
WRW8273	Sycamore	Plank	92	95										
WRW8274	Maple	Random edge grain	92	95			DEC8274							
WRW8275	Abstract line	-	92	80										
*WRW8276	Persimmon	Straight-grained	92	123										
WRW8277	Oak	Random edge grain	92	100										
*WRW8278	Oak	Straight-grained	92.6	125	92.6	●								
WRW8279	Chestnut	Straight-grained	92.6	125	92.6	●								
WRW8280	Elm	Straight-grained	92.6	95	185.2	● step								
WRW8281	Chestnut	Straight-grained	92.6	125	92.6	●								
WRW8282	Ash	Plank	92	95										
*WRW8283	Ash	Grain	92	110		●								
WRW8284	Walnut	Straight-grained	92	123			DEC8284 ◆							
*WRW8285	Ash	Block	92.6	125	92.6	●		PWT3248						
*WRW8286	Oak	Straight-grained	92.6	125	92.6	●		PWT3244						
WRW8287	Oak	Random edge grain	92	100										
*WRW8288	Walnut	Edge grain	92	123			DEC8288 ★							
WRW8289	Cherry	Edge grain	92	123			DEC8289							
WRW8290	Pecan	Grain	92.6	125	92.6	●								
WRW8291	Walnut	Plank	92	123										
WRW8292	Chestnut	Straight-grained	92.6	125	92.6	●								
*WRW8293	Elm	Straight-grained	92.6	125	92.6	●								
WRW8294	Walnut	Edge grain	92	80			DEC8294							
*WRW8295	Walnut	Grain	92	123		●								
WRW8296	Walnut	Edge grain	92	80			DEC8296							
WRW8297	Walnut	Straight-grained	92	123			DEC8297 ◆							
WRW8298	Cherry	Edge grain	92	123			DEC8298							

Productline table

■ Fire protection performance

Incombustible substrate Incombustible gypsum board	Semi-incombustible ground	Metal substrate (Excluding aluminum)	Category
NM-3958-2	QM-0809-2	NM-3959-2	1-4

REAL DECO

Product code	Design	Wood pattern type	Effective width (cm)	Repeat			Coordination		REAL DECO Accessories				
				Length (cm)	Width (cm)	Repeat pattern matching	HARDEC	ROYAL STONE/ WOOD	Molding	Molding corner material	Baseboard	Baseboard corner material	Corner Material
*WRW8299	Walnut	Edge grain	92	123			DEC8299 ★						
*WRW8300	Ash	Block	92.6	125	92.6	●		PWT3247					
*WRW8301	Oak	Straight-grained	92.6	125	92.6	●		PWT3245					
WRW8302	Oak	Edge grain	92	123			DEC8302	PWT3242					
*WRW8303	Maple	Block	92.6	123	185.2	● step							
WRW8304	Oak	Edge grain	92	123			DEC8304	PWT3243					
WRW8305	Oak	Edge grain	92	110									
WRW8306	Maple	Straight-grained	92.6	125	92.6	●							
WRW8307	Chestnut	Straight-grained	92.6	125	92.6	●							
WRW8308	Walnut	Plank	92	123									
WRW8309	Walnut	Random edge grain	92	95			DEC8309						
WRW8310	Elm	Straight-grained	92.6	125	92.6	●							
*WRW8311	Ash	Grain	92	100									
*WRW8312	Block wood	Block	92	90	92	●							
WRW8313	Oak	Plank	92	123									
WRW8314	Noce	Edge grain	92	100					WRK8314	WRE8314	WRH8314	WRT8314	WRC8314
WRW8315	Walnut	Edge grain	92	80			DEC8315						
WRW8316	Chestnut	Straight-grained	92.6	125	92.6	●							
*WRW8317	Oak	Grain	92	95	184	● step							
WRW8318	Maple	Straight-grained	92.6	125	92.6	●							
WRW8319	Maple	Random edge grain	92	95									
WRW8320	Maple	Random edge grain	92	95			DEC8320						
WRW8321	Maple	Random edge grain	92	95			DEC8321						
WRW8322	Noce	Random edge grain	92	95									
WRW8323	Ash	Random edge grain	92	95					WRK8323	WRE8323	WRH8323	WRT8323	WRC8323
WRW8324	Maple	Random edge grain	92	95			DEC8324						
WRW8325	Oak	Edge grain	92	95					WRK8325	WRE8325	WRH8325	WRT8325	WRC8325
*WRW8326	Walnut	Plank	92	95									
*WRW8327	Oak	Straight-grained	92	95									
WRW8328	Cherry	Edge grain	92	123			DEC8328						
WRW8329	Maple	Random edge grain	92	95			DEC8329						
WRW8330	Cherry	Edge grain	92	80			DEC8330						
WRW8331	Cherry	Straight-grained	92	123									
WRW8332	Oak	Edge grain	92	95									
WRW8333	Cherry	Random edge grain	92	95					WRK8333	WRE8333	WRH8333	WRT8333	WRC8333
*WRW8334	Beach	Plank	92	100									
WRW8335	Walnut	Straight-grained	92	123			DEC8335 ◆						
WRW8336	Cherry	Straight-grained	92	123									
WRW8337	Teak	Edge grain	92	95									
WRW8338	Walnut	Edge grain	92	80			DEC8338						
WRW8339	Walnut	Random edge grain	92	95									
WRW8340	Cherry	Edge grain	92	80			DEC8340						
WRW8341	Cherry	Edge grain	92	80			DEC8341						
WRW8342	Walnut	Random edge grain	92	95					WRK8342	WRE8342	WRH8342	WRT8342	WRC8342
WRW8343	Walnut	Straight-grained	92	123			DEC8343 ◆						
WRW8344	Teak	Edge grain	92	95									
*WRW8345	Apple	Straight-grained	92	100									
WRW8346	Mahogany	Edge grain	92	95			DEC8346						
WRW8347	Mahogany	Edge grain	92	95					WRK8347	WRE8347	WRH8347	WRT8347	WRC8347
WRW8348	Walnut	Edge grain	92	95									
WRW8349	Walnut	Grain	92.6	125	92.6	●							
WRW8350	Mahogany	Edge grain	92	95			DEC8350						
WRW8351	Walnut	Edge grain	92	80									
WRW8352	Rose	Edge grain	92	60			DEC8352						
*WRW8353	Walnut	Straight-grained	92	95									
WRW8354	Walnut	Straight-grained	92	123				PWT3258					
WRW8355	Walnut	Straight-grained	92	123			DEC8357 ◆	PWT3259					
WRW8356	Walnut	Random edge grain	92	95									
WRW8357	Walnut	Edge grain	92	80			DEC8357	PWT3259 ◆					
*WRW8358	Walnut	Plank	92	95									
WRW8359	Primavera	Edge grain	92	95					WRK8359	WRE8359	WRH8359	WRT8359	WRC8359
WRW8360	Cherry	Edge grain	92	80			DEC8360						
WRW8361	Walnut	Random edge grain	92	95			DEC8361						
WRW8362	Elm	Straight-grained	92.6	125	92.6	●							
WRW8363	Walnut	Straight-grained	92	123			DEC8364 ◆	PWT3260	WRK8363	WRE8363	WRH8363	WRT8363	WRC8363
WRW8364	Walnut	Edge grain	92	80			DEC8364	PWT3260 ◆	WRK8363 ◆	WRE8363 ◆	WRH8363 ◆	WRT8363 ◆	WRC8363 ◆
*WRW8365	Walnut	Straight-grained	92	95									
WRW8366	Teak	Edge grain	92	95									
WRW8367	Rose	Edge grain	92	60			DEC8367						
WRW8368	Ash	Plank	92	95									
WRW8369	Oak	Random edge grain	92	95					WRK8369	WRE8369	WRH8369	WRT8369	WRC8369
WRW8370	Oak	Edge grain	92	123			DEC8370						

● Joint with effective width. For the product with repeat pattern matching, match the repeat of length direction.

The product with *mark has dynamic pattern. It is recommended to check with big size sample.

Products with ◆ mark have the same color, same wood design, but the wood pattern type is different (straight-grained/edge grain)

★ Pattern direction: WRW8288/8299: vertical, DEC8288/8299: horizontal



WRW8288
(Vertical pattern)
WRW8299
(Horizontal pattern)



DEC8288
(Horizontal pattern)
DEC8299
(Horizontal pattern)

■ Fire protection performance

Incombustible substrate Incombustible gypsum board	Semi-incombustible ground	Metal substrate (Excluding aluminum)	Category
NM-2155	QM-0596	NM-2155	1-4

HARDEC

Product code	Design	Wood pattern type	Effective width (cm)	Repeat			Coordination		REAL DECO Accessories						
				Length (cm)	Width (cm)	Pattern repeat time	REAL DECO	ROYAL WOOD	Molding	Molding corner material	Baseboard	Baseboard corner material	Corner Material		
* DEC8246	Aged wood(Oak)	Plank	122	95	122	Parallel	WRW8246								
* DEC8247	Aged wood(Oak)	Plank	122	95	122	Parallel	WRW8247								
DEC8264	Zebrawood	Edge grain	122	61	18	1/2 step	WRW8264	PWT3277							
DEC8265	Zebrawood	Edge grain	122	61	18	1/2 step	WRW8265	PWT3278	WRK8265	WRE8265	WRH8265	WRT8265	WRC8265		
DEC8266	Walnut	Edge grain	122	82	21	1/2 step	WRW8266								
DEC8268	Oak	Edge grain	122	124.5	45	1/2 step	WRW8268								
DEC8270	Maple	Random edge grain	122	97	45	1/2 step	WRW8270								
DEC8274	Maple	Random edge grain	122	97	45	1/2 step	WRW8274								
DEC8284	Walnut	Edge grain	122	79	21	1/2 step	WRW8284 ◆								
* DEC8288	Walnut (Horizontal pattern)	Edge grain	122	126	40	1/3 step	WRW8288 ★								
DEC8289	Cherry	Edge grain	122	128	60	1/2 step	WRW8289								
DEC8294	Walnut	Edge grain	122	82	21	1/2 step	WRW8294								
DEC8296	Walnut	Edge grain	122	82	21	1/2 step	WRW8296								
DEC8297	Walnut	Edge grain	122	79	21	1/2 step	WRW8297 ◆								
DEC8298	Cherry	Edge grain	122	128	60	1/2 step	WRW8298								
* DEC8299	Walnut (Horizontal pattern)	Edge grain	122	126	40	1/3 step	WRW8299 ★								
DEC8302	Oak	Edge grain	122	124.5	45	1/2 step	WRW8302	PWT3242							
DEC8304	Oak	Edge grain	122	124.5	45	1/2 step	WRW8304	PWT3243							
DEC8309	Walnut	Random edge grain	122	97	40	1/2 step	WRW8309								
DEC8315	Walnut	Edge grain	122	82	21	1/2 step	WRW8315								
DEC8320	Maple	Random edge grain	122	97	45	1/2 step	WRW8320								
DEC8321	Maple	Random edge grain	122	93	30	1/2 step	WRW8321								
DEC8324	Maple	Random edge grain	122	93	30	1/2 step	WRW8324								
DEC8328	Cherry	Edge grain	122	128	60	1/2 step	WRW8328								
DEC8329	Maple	Random edge grain	122	93	30	1/2 step	WRW8329								
DEC8330	Cherry	Edge grain	122	77	41	1/2 step	WRW8330								
DEC8335	Walnut	Edge grain	122	79	21	1/2 step	WRW8335 ◆								
DEC8338	Walnut	Edge grain	122	82	21	1/2 step	WRW8338								
DEC8340	Cherry	Edge grain	122	77	41	1/2 step	WRW8340								
DEC8341	Cherry	Edge grain	122	77	41	1/2 step	WRW8341								
DEC8343	Walnut	Edge grain	122	79	21	1/2 step	WRW8343 ◆								
DEC8346	Mahogany	Edge grain	122	96	58	1/2 step	WRW8346								
DEC8350	Mahogany	Edge grain	122	96	58	1/2 step	WRW8350								
DEC8352	Rose	Edge grain	122	93	49	1/2 step	WRW8352								
DEC8357	Walnut	Edge grain	122	79	21	1/2 step	WRW8357 WRW8355 ◆	PWT3259 ◆							
DEC8360	Cherry	Edge grain	122	77	41	1/2 step	WRW8360								
DEC8361	Walnut	Random edge grain	122	97	40	1/2 step	WRW8361								
DEC8364	Walnut	Edge grain	122	79	21	1/2 step	WRW8364 WRW8363 ◆	PWT3260 ◆	WRK8363 ◆	WRE8363 ◆	WRH8363 ◆	WRT8363 ◆	WRC8363 ◆		
DEC8367	Rose	Edge grain	122	93	49	1/2 step	WRW8367								
DEC8370	Oak	Edge grain	122	124.5	45	1/2 step	WRW8370								

● Repeat is mentioned in all products of HARDEC for reference.

However, mentioning method is different from REAL DECO.

● Joint with effective width.

The product with *mark has dynamic pattern. It is recommended to check with big size sample.

Products with ◆ mark have the same color, same wood design, but the wood pattern type is different (straight-grained/edge grain)

★ Pattern direction: DEC8288/8299: horizontal, WRW8288/8299: vertical



DEC8288
(Horizontal pattern)
DEC8299
(Horizontal pattern)



WRW8288
(Vertical pattern)
WRW8299
(Horizontal pattern)

< Cover photo >

Oak / Grain WRW8223 (Bottom joint installation)

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