



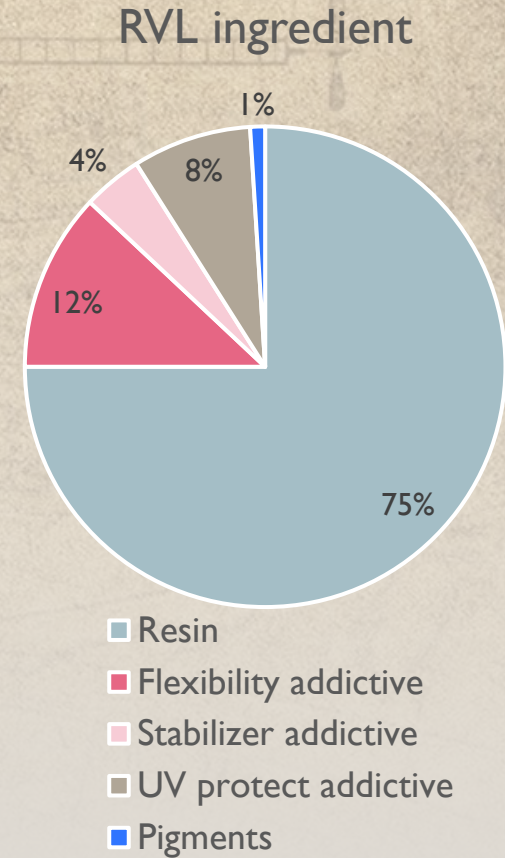
KORIA RVL



WHAT IS RVL?



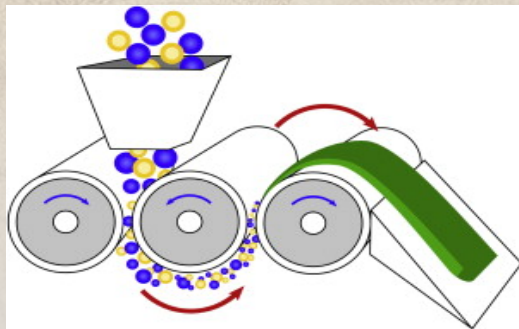
- RVL stands for Resin Vinyl Laminate.
- Koriam RVL is a 100% Korea Imported Laminate commonly used in furniture fittings, walls, doors, ceilings and etc.
- Koriam RVL is made up of the following ingredient:
 - Resin : 75%
 - Flexibility additive : Dioctyl Phthalate – DOP (12%)
 - Stabilizer additive : 4%
 - UV protect additive : Titanium dioxide (8%)
 - Pigments : 1%



HOW IS RVL MADE?



- RVL goes through three processes and they are Calendaring, Printing and Embossing.
 - Calendaring : Mixing all raw materials to and compressing them into sheet/foil.
 - Printing : Pigments of the desired décor are carefully mixed and printed onto the sheet.
 - Embossing : Printed sheets are pressed to the according to the embossing required.
- FUN FACT: Korla RVL is able to produce proprietary décor and 100++ types of embossing based on customer request (subject to MOQ).



Calendaring



Printing



Embossing

RVL SPECIFICATION – SCRATCH RESISTANCE



- All RVL with thickness of more than 0.17mm are completed with a 0.05mm of wear layer coating. The wear layer coating enhances the RVL ability to withstand rubbing, scraping and erosion.
- Taber Rotary Platform Abraser (Taber Test) which is predominantly used in **Laminate Flooring** is used to gauge RVL scratch resistance ability.
- The following table represents the Abrasion Rating level and its general usage under the Taber test:

Abrasion Criteria (AC) rating for Laminate Flooring		
AC rating	Uses	Example
AC1	Moderate Residential	Bedroom
AC2	General Residential	Living Room / Dining Room
AC3	Moderate Commercial	Small Office
AC4	General Commercial	Restaurant, Boutiques, Office
AC5	Heavy Commercial	Department store/ Public Building

Koria RVL is rated as AC I under the Taber test



RVL SPECIFICATION – LIGHTFASTNESS

- Lightfastness refers to the ability of the resistance of fading of a dye or pigment after subjecting it to UV light.
- Blue Wool Scale is the benchmark test for lightfastness. The table below shows the rating of lightfastness under Blue Wool Scale:

Blue Wool Rating		
Rating	Lightfastness	Dye remains unchanged under normal condition of display
1	Very poor	Less than 2 years
2	Poor	2 to 15 years
3		
4	Fair	15 to 50 years
5		
6	Very good	50 to 100 years
7		
8	Excellent	Over 100 years

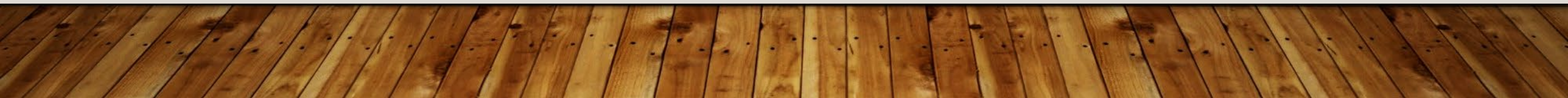
Koria RVL has a lightfastness of not less than 7

Source: <http://www.handprint.com/HP/WCL/pigmt6.html#lightfast>

RVL SPECIFICATION – OTHERS



- Flammability:
 - Korla RVL is resistant to ignition and it does not spread when exposed to fire.
- Water permeability:
 - Korla RVL is a **waterproof** resin base material.
 - Paper based melamine is vulnerable after long exposure to water.
- Odour free:
 - RVL is installation-ready as it is free from typical resin odour.
- Stain resistant:
 - Korla RVL is also resistant to common household chemical, for example household bleach.



WHY RVL? - OVERVIEW



- Over the decades, the industry is compromised with the limitation of HPL. However, with the innovation of Korla RVL, we are confident to provide the market with a better solution that targets current issue of the industry.
- From the interview with professionals in the industry, the application of HPL generally has the following limitation:
 - Limited length (8 foot)
 - Fragile/brittle
 - Mundane finished product (black lines)

FREEDOM OF LENGTH



- Unlike HPL with limited length options, the production of Korla RVL is manufactured and packed in a compact design (ROLL). With this unique packing method, Korla RVL would have a promising length of at least 100 meters in a single roll.
- The unique packing method (Roll) encourage the user to store high quantity of RVL with limited space.
- The novel design of RVL is fully integrated with any surface regardless of length (Joint-line free)
- **Please refer to Video 1.**

BENDABILITY / FLEXIBILITY



- Due to the nature of Korla RVL, it can be bent to an unprecedented small radius. This superior attribute makes Korla RVL the most outstanding laminate for furniture with the smallest curvature radius.
- With the proper technique and heat application, it is highly versatile and compatible with various angles and designs of the surface.
- With its outstanding flexibility and exceptionally light-weight, Korla RVL is the perfect laminate for users to carry around effortlessly.
- **Please refer to Video 2.**

SOLID CORE DECOR

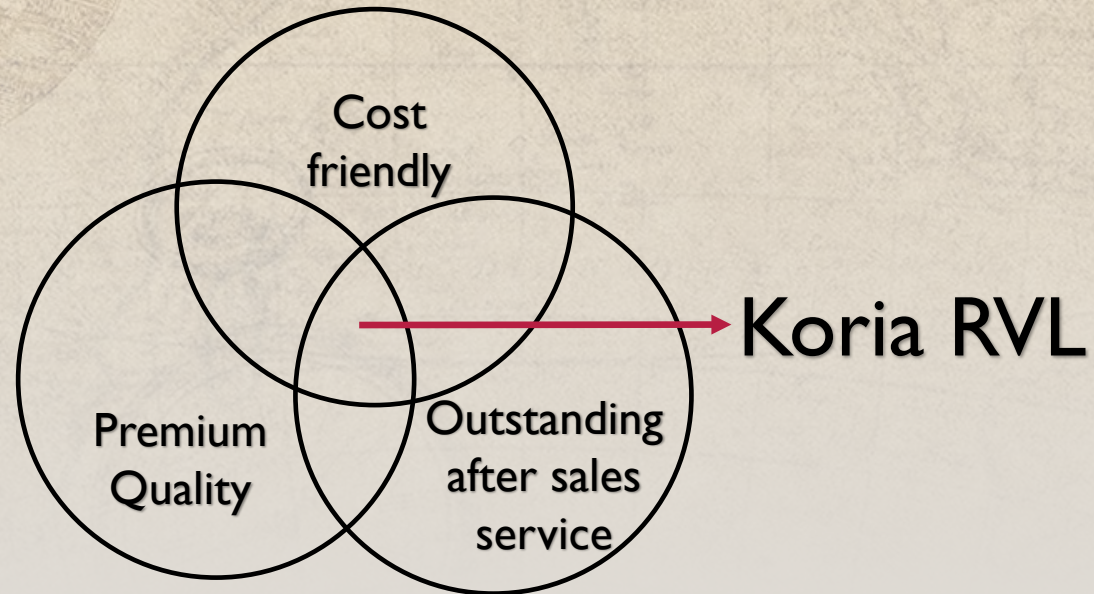


- To provide the user of Korla RVL with the finest and aesthetically pleasing material, we have improved the black edge that are commonly found in HPL with a solid core that is close to the original décor.
- **Please refer to Video 3.**

COST FRIENDLY PREMIUM QUALITY



- Price is always closely associated with the consumer decision of choosing a product, Korla RVL strives to provide a budget friendly and premium quality product to our customer.



HOW TO USE RVL? (1/3)



- Koria RVL is designed in different thickness to cater different needs. The various thickness option is ideal for both manual and machine lamination.
- 0.6mm RVL
 - Only applicable for manual lamination.
 - It can be slit into smaller strips (standard size of 23mm and 46mm) and can be applied as edging materials.
 - Recommended for RVL new users.

HOW TO USE RVL? (2/3)



- 0.3mm RVL
 - Applicable for both machine and manual lamination.
 - These laminated RVL board usually comes in the size of 4' X 8':
 - Machine laminated: available in common boards: plywood, HMR particle and MDF board.
 - Manual laminated: alternative of machine laminated
 - Customer that are looking for a congruous exterior and interior furniture would be pleased with Korla RVL.
 - Recommended for experienced RVL user.

HOW TO USE RVL? (3/3)



- 0.12mm RVL
 - Applicable for machine lamination.
 - Machine laminated: available in common boards: plywood, HMR particle and MDF board.
 - 0.12mm provide alternative option to be cost effective. (Mix-match mode)
 - Alternative for different income customer without losing the aesthetically pleasant and 100% matching interior and exterior furniture.
- 0.08mm RVL
 - Machine lamination only.
 - Great option for solid color choice.
 - Only available for projects with volume.

RECOMMENDED ADHESIVE



- The infinite ways of applying Korla RVL shall be customized with different adhesives in accordance with the surface (Porous/ Non-porous).
- For manual lamination of porous surface (e.g. plywood, particle board and etc.) , Ethylene Vinyl Acetate Glue (commonly known as EVA white glue) complements the best with Korla RVL when they are used in tandem.
- Aliphatic resin glue (commonly known as yellow glue) is recommended for manual lamination of non-porous surface (e.g. steel, iron, aluminum and etc.)
- EVA white glue: Room to adjust after making contact with the surface
- Yellow glue: Non-adjustable after making contact with targeted surface

RECAP (1/2)



- RVL comes in various thickness and for different purpose. Please refer to the table for the recap of RVL:

RVL thickness and its usage							
Thickness	Wood Décor	Scratch resistant	Lightfastness	Freedom of length	Extreme flexibility	Manual lamination	Machine lamination
0.08mm	×	×	✓	×	×	×	✓
0.12mm	✓	×	✓	×	×	×	✓
0.30mm	✓	✓	✓	✓	✓	✓	✓
0.60mm	✓	✓	✓	✓	✓	✓	×

RECAP (2/2)



- RVL comes in various thickness and for different purpose. Please refer to the table below:

RVL thickness and its usage (Cont'd)	
Thickness	Example
0.08mm	Internal carcass for furnitures (project only)
0.12mm	Internal carcass for furnitures
0.30mm	Surface of furnitures, manual laminatin of tall and curve wall or ceiling
0.60mm	Edging for furnitures, manual lamination of tall and curve wall or ceiling

FREQUENTLY ASKED QUESTION (1/3)



- Where is Korla RVL from?
 - Korla RVL is an imported product that is manufactured in South Korea.
- What is the width of RVL?
 - 1250mm
- What is the length of RVL?
 - For 0.3mm RVL, the maximum length is 150 meters. For 0.6mm RVL, the maximum length is 100 meters.
- How do I buy? Can I buy one meter only?
 - As we are factory direct sales, the minimum order per order is 10 meters.
- How do I compare RVL against HPL selling price?
 - HPL usually comes in the standard length of 2.44 meters. RVL is sold in meters. To compare RVL selling price against HPL selling price, just multiply the selling price of RVL per meter by 2.44 meters.

FREQUENTLY ASKED QUESTION (2/3)



- What is the difference between HPL or Formica and RVL?
 - RVL's core/base is made from PVC resin which is 100% water resistant. Due to PVC's cross linked in multi direction, it does not tear easily., HPL is a hybrid of compressed paper/cellulose with resin impregnation. Due to the nature of its production, it is much more rigid and inflexible compared to RVL.
- What is the difference between wallpaper sticker and RVL?
 - Wallpaper's core/base material is made from wood based cellulose which is not water resistant.
 - In terms of application, wall paper needs special skill set to lay because it creases easily which may result in air pockets after laying. RVL has a much more rigid structure, so does not crease easily thus making laying much easier.
 - Furthermore, the pre-applied adhesive on wallpaper ages faster. The recommended adhesive for RVL is only applied when it is being used and hence it is a much stronger adhesive compared to wallpaper adhesive.

FREQUENTLY ASKED QUESTION (3/3)



- What are the disadvantage of RVL?
 - Due to its relatively softer/flexible nature, the surface to be laminated must have unblemished marks like clear of indentation/protrusion.
 - Similar to HPL, it is not recommended for RVL to come in contact with hot surface.
- Do I need to separately buy raw board and RVL if I buy RVL laminated board?
 - No, RVL laminated board comes laminated with RVL on the board. Carpenters can immediately work with the RVL laminated board without having to laminate HPL onto raw board.
- What are the RVL laminated board size?
 - The standard board size is usually 4' X 8'. We do not supply 6' X 8' due to the limitation of our RVL that only comes in 1250mm (4').
- What is the width of edging?
 - We supply only 23mm and 46mm. Special size edging is possible but subject to volume.



TECHNICAL DATA SHEET

Product:

Koria RVL

Description:

Koria RVL is a revolutionary soft and extra-long decorative laminate that can be applied to any surface. This can be achieved by using white glue or yellow glue.

1. Attributes:

- Freedom of length, long length of up to 150 meters
- Radius Friendly, able to bend up to 90 degrees
- Solid colour core
- Water resistant
- Scratch resistant
- UV resistant
- Odour free

2. Properties:

Thickness	0.08mm, 0.12mm, 0.17mm, 0.30mm, 0.60mm
Wear layer coating	0.05mm (only on 0.17mm and above thickness)
Abrasion rating	AC1 (Taber test)
Stain resistance	Non-reactive (Household bleach)
Light fastness	Not less than 7 (Blue wool Rating)

3. Composition:

Chemical Name	CAS Number	Content
PVC Resin	9002-86-2	75~80%
DOTP	6422-86-2	0~15%
Complex Stabilizer & Addictive	-	3~5%
Titanium Dioxide (TiO ₂)	13463-67-7	3~10%

4. Hazard Composition:

Emergency risk and hazard information	NFPA Index Health and Fire = 1 Reactivity = 0
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5. First aid measures

Contact with eyes	Remove foreign objects immediately and follow doctor's instructions
Contact of skin	No effect
Ingestion	Vomit it out immediately. Medical action should be taken if necessary

6. Fire Fighting measures

Classification and regulation by the Fire Service Act	Not applicable
Extinguishing agents	Carbon dioxide powder extinguishing agent, water spray
Fire extinguishing method and equipment	Toxic gas is generated in case of fire, gas mask must be worn when extinguishing.
Hazardous substances generated during combustion	HCL and toxic gas generated during combustion

7. Handling and Storage

Safe handling tips	Be careful when moving as it is heavy
Storage method	Avoid direct sunlight, heat and impact. Should be stored in between 0°C to 30°C temperature. Keep standing. If correctly stored the product can retain its features for at least 12 months.

8. Exposure controls / Personal protection

Ventilation	No special ventilation required under normal conditions
Protection	No need
Eye protection	No need
Hand protection	Protect your hands with regular gloves
Body protection	Normal level of protection

9. Physical and Chemical Properties

Specification	Measurement value	Test Method
Exterior	Solid	-
Smell	None	-
Solubility	Non soluble in water	-
Tensile strength (length)	354kg f/cm ²	ASTM-D-638
Tensile strength (width)	314kg f/cm ²	ASTM-D-638
Tear strength (length)	78kg f/cm ²	ASTM-D-1004
Tear strength (width)	82kg f/cm ²	ASTM-D-1004
Heated elongation	206%	90°C X 3 minutes
Dimension stability (length)	-1%	250X250mm 80°C X 30 minutes
Dimension stability (width)	0.05%	250X250mm 80°C X 30 minutes
Vicat softening Temperature	80°C	ASTM-D-1525
Charpy Impact Strength	6.8kg f/cm ²	ASTM-D-2563
Hardness	86 Shore "D"	ASTM-D-2240

10. Stability and Reactivity

Chemical stability	Very stable under standard conditions
Conditions and substances to avoid	Extreme heat / solvent

11. Disposal consideration

Disposal method	Reuse, incinerate or dispose off in a designated place under regulation
Caution for disposal	Toxic gases are released during incineration