

## PROPERTIES OF RECYCLED PLASTIC PRODUCTS

**Polymer knots:** Some Replas products contain polymer knots. These knots occasionally occur in the moulding process, but do not affect the quality of the product. *Please note: knots are similar to ordinary timber knots.*

**Size variation:** Sizes quoted on our pricelist are approximate. Please allow for a +/-5 mm variation in length and a +/- 5 mm variation in width and height for products such as Profiles (commonly used to make Furniture). When using larger products please note the variations will increase accordingly (Please contact your sales Rep for further information). Please note with Enduroplank™: where boards need to suit, we advise that all cutting is done on site. Precision cutting between 1-5 mm is not possible at the Replas factory due to expansion and contraction issues.

**Technical training and information:** When working with recycled plastic and fabricating on site Replas strongly suggests a training session covering the unique properties of plastic and differences in behaviour and techniques when compared to methods with traditional materials (Timber / Steel / Aluminium). Different plastic polymers all have unique physical attributes, as our products are a mix of HDPE, PP and LDPE our plastic products do at times require unique methods for installation / fabrication. Because of this we also recommend allowing for extra time on your job site where applicable if onsite fabrications are taking place. Replas is happy to provide information and training on methods of working with our unique products where needed.

**Toxicity:** Replas recycled-plastic products are inert and will have no detrimental effect on the environment. Alternate products may contain toxic metals such as arsenic and copper, which may leach into the environment.

**UV statement:** Recycled plastic contains approximately two per cent UV stabiliser, which extends the life of the product. However, depending on the climate, the colour may fade due to UV exposure. This is particularly relevant with blue, white and green colours. The quality or performance of the product will in no way be affected.

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**Slip resistance:** When deciding if recycled plastic is suitable for your application, please consult your engineer. Consideration must be given to the planned use and specific application of the product to determine its suitability. Replas is happy to provide advice; however, Replas is not an engineering company. It remains the responsibility of the client to ensure the suitability of the product.

Please note: Slip resistance tests have been conducted on Enduroplank™ by Advance Technology Testing and Research (ATTAR) and the results are available on the website under the Enduroplank™ product page marked 'Test Results.'

**Air bubbles:** Recycled plastic products may contain air bubbles. These occur as a result of the Replas manufacturing process. Air bubbles will not appear on the surface of the product and in no way affect the quality. They will occur on the ends of the profiles when trimmed/cut (for an additional fee). Air pockets may be present if cutting has been introduced but this will not affect the integrity of the product.

**Colour variation:** Replas makes a range of products utilising plastic that would otherwise go to landfill. The type and colour of the raw material that Replas reprocesses varies depending on supply, this results in colour variation in the finished product. Splashes and swirls may also occasionally occur on some products due to the injection process. As certain products are manufactured on different machines it may not be possible to exactly colour match items. This is an unavoidable part of the recycling process. While any variation is kept to a minimum due to high quality control standards, clients should be mindful of possible colour variation when ordering. Replas appreciates their customers understanding that they are purchasing recycled products.

*Please note: when choosing colours for seating, black is to be avoided as it will reach a higher temperature than other colours.*

**Cupping:** As Enduroplank™ is made from recycled plastic waste, cupping may occur during the manufacturing process. However, this does not affect the integrity or lifespan of the product. Any cupping, greater than 3.5 mm, detected during manufacturing will be rejected. Once produced, recycled plastic will not cup any further.

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**Flammability:** As our products are made of plastic they will melt in extreme heat, such as bushfire. However, while plastic will melt, it does not release harmful toxins unlike treated timber.

**Painting:** Replas products never require painting. Should you choose to paint your Replas product, be aware that not all paints will adhere to the surface of the plastic. Once painted the product then requires maintenance.

**Expansion and Contraction:** Recycled plastic will expand and contract longitudinally depending on the temperature. It is not recommended that Enduroplank™, profiles, or slats be laid longitudinally due to this issue. Where a wider span is required, this information needs to be taken into consideration in the design process. Replas is happy to offer advice in this area but takes no responsibility for any issues arising in an installation where products have been laid in this manner.

Depending on the installation, the number of fasteners required may vary, please consult Replas for advice. This is particularly important where a continuous run of garden panels is to be used. Garden panel: Garden panels are suitable for sand pits and garden beds. Where garden panels are to be used as a retaining wall engineering advice should be sought.

**Sheeting:** We cannot guarantee the colour consistency or recycled materials, which may result in spotty / speckled finish and variation in colour from batch to batch and from panel to panel within a batch. If exact colour consistency is required, use coloured virgin material.

**Speed humps:** Replas speed humps are guaranteed for one year against manufacturer defects. No guarantee is provided for fixings. Speed humps are designed for use in off-street parking areas. The product is not suitable to be driven over frequently by trucks. The product warranty will be void if evidence suggests frequent truck use.

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### ADDITIONAL PRODUCT PROPERTIES

**Enduroplank™:** Replas products are affected by changes in temperature and will expand and contract as the temperature rises and falls.

#### Expansion and contraction

The coefficient of linear expansion for RPA material is applicable to Enduroplank™, profiles and wharf fenders. The value of  $1.1 \times 10^{-4}$  applies. This means that each one-metre length will expand by 0.0001 metre for each degree Celsius change in temperature, or 0.11 millimetres per degree change in temperature. A one-metre length will expand, or contract, 2.2 millimetres for a 20 degree change in temperature. Important to note that any material in direct sunlight will be at a higher temperature than the surrounding air and therefore actual expansion may vary from that calculated. To accurately recommend the gap between planks depends on the temperature of the installation site and the maximum temperature to be reasonably expected at that location.

**Installers who do not wish to use the above calculation may choose to use the below rule of thumb.**

The below chart assumes a 20-degree difference between the installation temperature and the maximum temperature.

<b>Length of profile</b>	-	1 metre	2 metres	3 metres	4 metres	5 metres	6 metres	7 metres	8 metres
<b>Gap to be provided</b>	-	3.0 mm	6.0 mm	9.0 mm	12.0 mm	15.0 mm	18.0 mm	21.0 mm	24.0 mm.

*Please note: the above is the total gap between boards so to get a measurement for either end divide by two.*

Enduroplank™ has a width of 195 mm and the minimum gap you should allow between planks width ways would be 1.2 mm. A standard gap would be 5 mm. The above chart is a suggested recommendation only for installers. It is suggested best results will be achieved by controlling the temperature of the material during installation. This may be achieved by placing shade cover over stored material while installation is in progress.

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Enduroplank™ decking planks can be handled and machined using the same equipment used for handling timber components. Cut the planks with a circular saw with a narrow blade that has as few teeth as possible.

Enduroplank™ decking planks in brown have far more colour variation from batch to batch, or even throughout the same batch, than other Replas products. Enduroplank™ planks in brown may not be returned because the customer is dissatisfied with the differing shades of brown. Minimum order quantities apply.

The recycled plastic used by Replas can be degraded by ultraviolet (UV) light if unprotected. UV light breaks up plastic (polymer chains) that can eventually produce white dust like residue, if unchecked. Replas has worked with leaders in the plastics industry to incorporate a state-of-the-art UV Light Stabilisation package in all recycled plastic products manufactured by Replas. In 2020, all products made by Replas include these additives, which are specifically tuned for the harsh Australian environment. Replas products are protected from UV degradation and can be in the environment for over 10 years without visible effect.

When buried, the plastics are not subject to either Thermal or UV attack so will not naturally degrade in this way. Plastics do not split or rot and are resistant to insect attack. Replas plastics will perform well in subterranean applications without need for maintenance or replacement for many years.