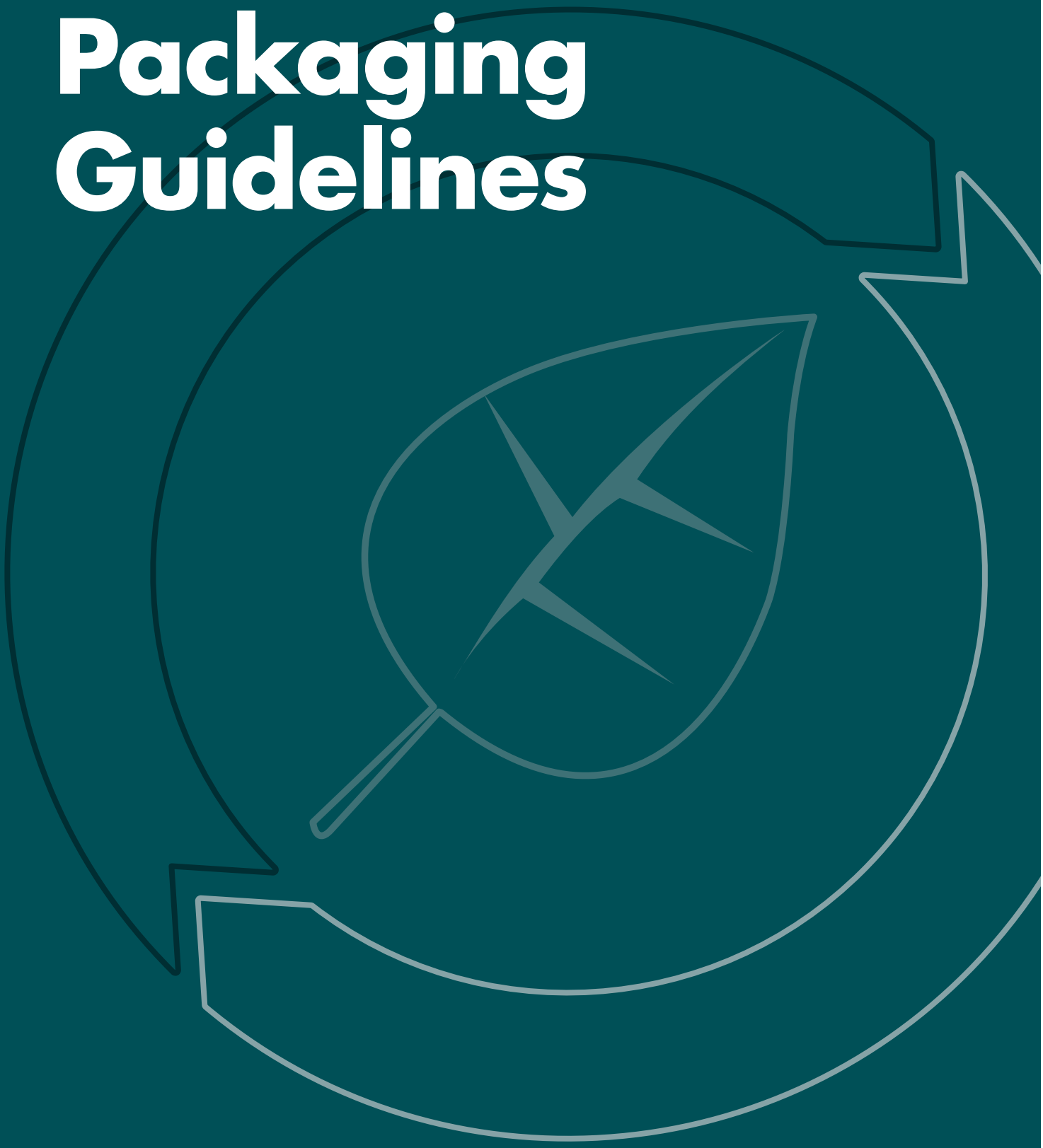
Sustainable Packaging Guidelines



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BUNNINGS warehouse

Contents

1.0 Introduction

The main purpose of packaging is to contain and protect products. Beyond this, it provides information relating to the product, composition, origin and safe and effective use. Well-designed packaging meets the following needs:

- Market and consumer needs, while minimising net impact in a cost-effective way
- Minimises the use of materials and other resources without compromising product quality and safety as it is handled throughout the supply chain and by consumers
- Minimises the environmental and social impact of materials and components
- Maximises its potential for recovery and recycling, and minimises the environmental and social impacts of its disposal

Bunnings is committed to four packaging sustainability goals to be achieved by 2025:

- 100% of packaging to be re-usable, recyclable or compostable
- 50% average recycled content used to make all packaging
- 70% of plastic packaging to be recycled or composted
- Phase out problematic and unnecessary single use plastic packaging through redesign, innovation or alternative delivery methods

These guidelines apply to all packaging across the Bunnings Group and supplement Bunnings' FIS and FOB Packaging Guidelines and Bunnings' Shipping Platform Standards.

1.1 Purpose

This document has been developed to support suppliers to provide sustainable packaging to Bunnings.

1.2 Scope

Packaging is used to describe all materials that are supplied with a product, excluding accessory parts, built-in product storage display cases, and separate warranty and instruction booklets.

The information in this document is relevant to the primary, secondary, and tertiary layers of packaging sent from the:

- Supplier to any Bunnings location such as distribution centres, warehouses, stores or trade centres
- Supplier to a Bunnings customer
- Bunnings location to another Bunnings location
- Bunnings location to a customer, including Click & Collect and Click & Deliver

Primary Packaging

Primary packaging is the first wrap or containment of a product, including the materials in direct contact with the product, as well as the packaging surrounding them.

Secondary Packaging

One or several primary packs may be placed in secondary packaging for ease of handling. Examples include, shelf ready trays (SRT), polybags and point of sale displays that hold multiple unpackaged items together.

Tertiary Packaging

Tertiary packaging is the outermost layer of packaging used to move products in bulk through the supply chain, for example onto a shipping container or truck.

Examples include palletainers, stretch wrap and strapping.

These are general descriptions of packaging, and it is important to note that a product could be supplied with:

- Zero or any number of layers of packaging
- Packaging that is difficult to categorise as either primary, secondary or tertiary packaging

1.2.1 Divisions

The guidelines presented in this document apply to Bunnings' entire supply chain including Bunnings Warehouse, Bunnings Trade, Bunnings Market Place and any other entities controlled or operated by the Bunnings Group.

1.2.2 Brands

This document provides sustainable packaging guidelines for all brands sold at Bunnings.

Private Label Brands	Exclusive Brands	Supplier Owned Brands
Brands where the trademark and registration are owned by Bunnings Group. These products may be sourced directly or by a third party either locally or overseas.	*Brands suppliers own and control that are only sold through the Bunnings network of stores and trade centres.*	*Brands suppliers own and control and are readily available in the market.*

2.0 Packaging Design Tools

Packaging design is a critical element in meeting Bunnings Sustainable Packaging Guidelines. Our aim is to reduce packaging waste at the design stage by minimising the materials used, and optimising its re-use and recyclability.

The following tools are helpful to consider for the development of packaging that protects the product with minimal environmental impact.

- Bunnings' Packaging Waste Hierarchy
- Packaging System Review
- Life-cycle Assessment

The tools described below range from simple to advanced models for packaging design.

2.1 The Waste Hierarchy

Starting from the top of the inverted pyramid and working down to the tip, the waste hierarchy provides the order of actions to factor into the design of packaging for the greatest environmental benefit.

Bunnings recommends this model as a first approach to designing packaging.

Figure 1 – Bunnings' Packaging Waste Hierarchy

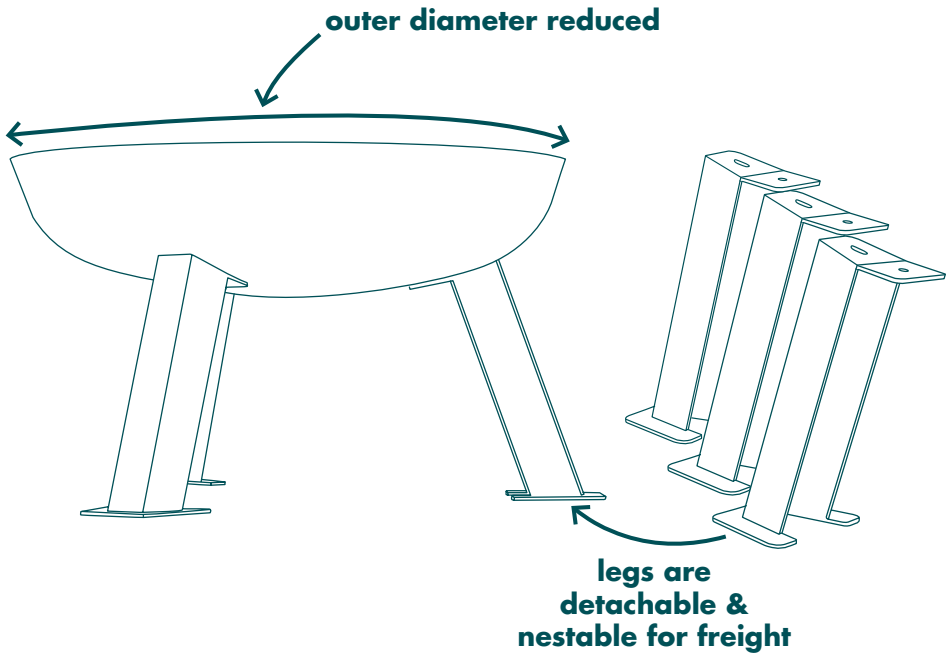
2.2 Product-Packaging System Review

There are benefits to reviewing the way a product is packaged throughout its journey, from its manufacturer to consumer. The product and packaging should work as a system that protects the product from damage and improves safety as it is handled, stacked and transported through the supply chain.

Minor changes to the size, shape and way a product is assembled can reduce the amount of primary, secondary and tertiary packaging that is required.

It can also have the additional benefit of improving the design of the product and reducing the likelihood of it becoming damaged in transit. In some cases, it may even provide a cost benefit.

Figure 2 – Packaging Benefits Achieved From Redesigning a Firefit Product



The following packaging benefits were achieved from redesigning this firepit:

- More products could be contained per shipping carton, reducing the overall number of cartons required for each shipment of the product
- Shipping cartons could be stacked with greater stability for transport and storage, eliminating the need for fillers such as expanded polystyrene (EPS) to stabilise the load.
- More products fit on a pallet, optimising pallet utilisation and reducing the volume of used packaging waste generated at our stores.

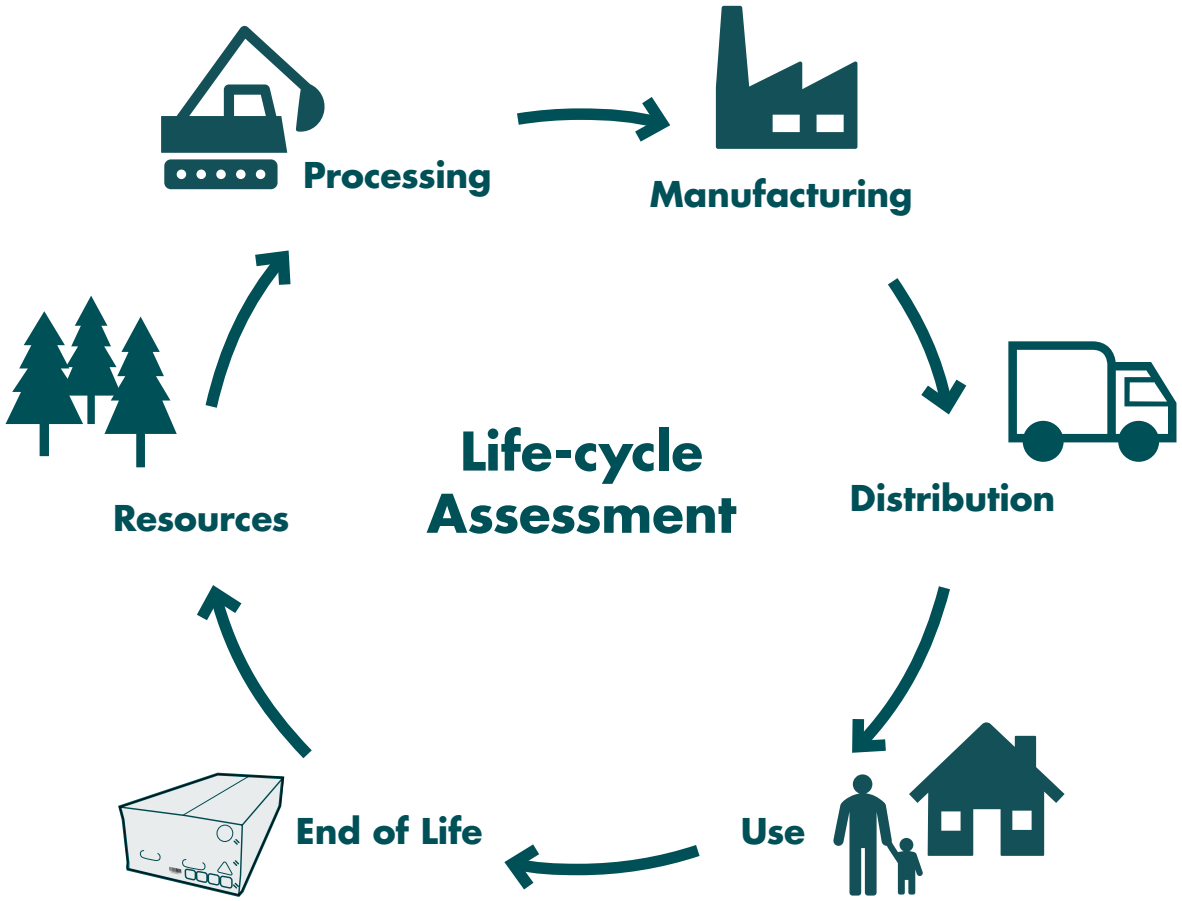
2.3 Life-cycle Assessment

Life-cycle assessment measures the environmental impact of packaging throughout all stages of its life-cycle, from sourcing the raw materials through to processing into packaging, use and end-of-life.

Specialised software is used to estimate the amount of water, energy and other resources that are consumed in a typical life cycle of the packaging. The resulting analysis can be used to compare the overall benefit of one packaging format over another.

Life-cycle assessment is often used to substantiate on-pack claims that a new packaging format is more beneficial to the environment than the previous one. All life-cycle assessments provided to Bunnings must be prepared to the ISO 14040 series of standards.

Figure 3– Scope of Life-cycle Assessment impact analysis



3. Bunnings' Sustainable Packaging Guidelines

Bunnings' Sustainable Packaging Guidelines comprise ten criteria. We recommend that suppliers incorporate as many of the criteria as possible into the design of packaging to optimise it for our supply chain.

Table 1 – Sustainable Packaging Guidelines

3.1 Design for Recovery	**3.6** Use Renewable Materials
3.2 Optimise Material Efficiency	**3.7** Design to Minimise Litter
3.3 Design to Reduce Product Waste	**3.8** Design for Transport Efficiency
3.4 Eliminate Hazardous Materials	**3.9** Design for Accessibility
3.5 Use Recycled Materials	**3.10** Provide Consumer Information on Environmental Sustainability

Design for Recovery

Packaging that is designed for recovery is either resusable, recyclable or compostable at the end of its life within Australia and New Zealand. This section outlines the definitions of these terms and provides guidance for suppliers to design packaging that meets this criteria.

3.1.1 Reusable Packaging

Reusable packaging is designed to fulfil the same purpose multiple times throughout its life-cycle. All reusable packaging is part of a 'system' that enables the packaging to be either returned or refilled. Bunnings recognises reusable packaging that can be used in the following systems.

Table 2 – Reusable Packaging Systems

Reuse System			
Refill at home A consumer refills packaging at home	**Refill on-the-go** A consumer refills packaging away from home	**Return from home** Empty packaging is picked up from a consumer's home	**Return on-the-go** A consumer returns packaging to a store/ drop-off point
Example			
A cleaning product where refill bottles are purchased and used at home	A coffee cup that can be returned to a café to be refilled	A container collected from a consumer's home which is then cleaned and refilled for redistribution	A swap-and-go gas bottle where the empty vessel can be returned to store and replaced with a full one

Reusable packaging must meet the following key criteria:

- Fulfill the same purpose multiple times
- Comprise a majority proportion of reusable components by weight
- Comprise components that are recyclable at end-of-life
- Involve collection and refill systems that are safe to refill, use and convenient to access

3.1.2 Recyclable Packaging

Recyclable packaging meets the following criteria:

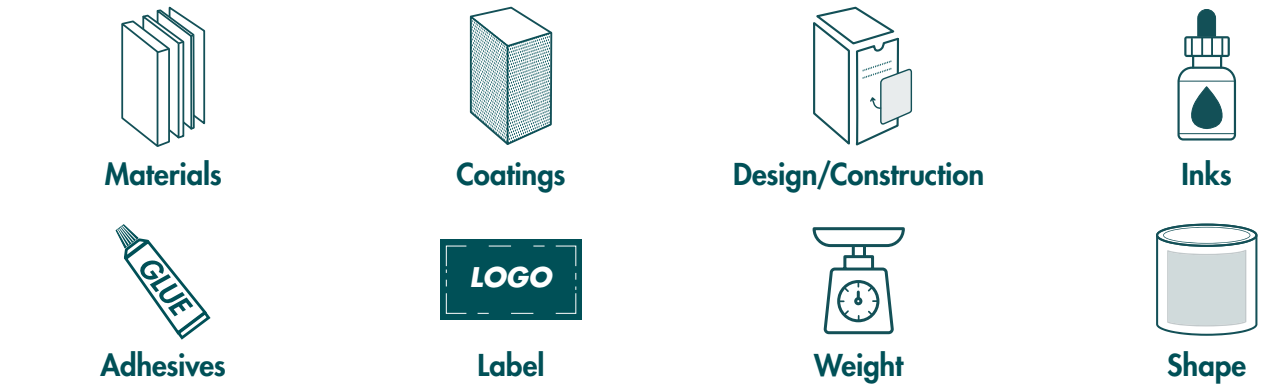
1. The packaging is recyclable through the kerbside collection services offered in Australia and New Zealand.

Greater than 80% of the population has access to these services which are established with end markets for the recycled materials.

2. The packaging is recyclable through consumer drop off at a retailer or specialist recycler. These services must be accessible to 60% – 80% of the population to qualify.

3. Alternatively, a supplier or third party may enter into a formal agreement with Bunnings to offer a closed-loop system for recycling packaging. Consultation with the Bunnings Sustainability team will be required to make these services accessible and sustainable to operate.

Figure 4– Elements of design that affect packaging recyclability



Recyclable Materials

The section below provides clear guidance on the packaging materials preferred by Bunnings. The materials are represented under a green, amber and red heading in the table below with the following meanings.

✔ GREEN	Materials that are compatible with recycling systems in Australia and New Zealand
⚠ AMBER	Materials carefully controlled by Bunnings because they present challenges to our business as both packaging and waste
✖ RED	Materials to be phased out because they cannot be recycled in Australia or New Zealand and regulations limit their use

From September 2023, packaging containing expanded polystyrene (EPS), polyvinyl chloride (PVC (3)) and degradable plastics will only be accepted by exception.

Table 3 – Material Recyclability

✔ Preferred	⚠ Consultation required	✖ Not to be used
Fibre Corrugated cardboard, cardboard, paper, moulded fibre **Rigid Plastics** PET (1), HDPE (2), LDPE (4), PP (5) **Soft Plastics** HDPE (2), LDPE (4), PP (5), BOPP **Metals** steel, aluminium **Glass** **Timber** stick timber **Textiles** jute / hessian	**Textiles** Polyester, cotton, wool	**Fibre** Grey board, glassine, tissue paper **Rigid Plastics** PVC (3), PS (6), nylon composite 'other' plastics (7), Expanded polystyrene (EPS), Expanded polypropylene (EPP) and silicone **Soft Plastics** PET (1), PVC (3), PS (6), nylon, expanded polyethylene (EPS), and multilayer films of mixed polymers, paper and aluminium **Bioplastics** oxy/oxo degradable, fragmentable, biodegradable plastics, PLA, PHA, PBAT **Rubber** **Composite Materials** chipboard, plywood, MDF

Packaging Construction

The section below provides clear guidance to construct and assemble recyclable packaging.

The green, amber and red headings in the table have the following meanings.

✔ GREEN	Packaging formats preferred by Bunnings because they are compatible with kerbside recycling systems in Australia and New Zealand
⚠ AMBER	Packaging formats that require careful consideration in consultation with Bunnings because the infrastructure to recycle these materials can be difficult to access
✖ RED	Packaging formats not accepted by Bunnings because they are difficult to recycle in Australia and New Zealand

Table 4 – Packaging Assembly and Construction

✔ Preferred	⚠ Consultation required	✖ Not to be used
Cardboard/paper either uncoated, clay coated, or polyethylene coated (less than 5% by weight) on one side only Single materials are preferred or multiple components should be separable for recycling Soft plastic comprising more than 80% of a primary polymer and up to 20% of a recyclable secondary polymer (both materials from the green category only) with less than 10% nylon and EVOH Labels covering less than 40% of the exposed surface area Preferred label materials are Polyolefin (HDPE (2), LDPE (4) or PP (5) on rigid HDPE (2), PP (5) on rigid PP (5), PP (5) or PET (1) on rigid PET (1), paper on cardboard/paper Light coloured, water and plant-based inks	Compostable primary packaging only where all components are certified to either AS 4736:2006 or AS 5810:2010 and labelled according to ISO 14021:2016	Paper or cardboard: • Coated with PP (5) • Laminated with plastic (rather than coated) • Waxed / greased; or • Lined with foil Dark tinted rigid PET (1), HDPE (2) containers and glass Rigid and soft plastics coloured with carbon black or opaque pigments such as titanium oxide Heavily printed, dark printing, especially on plastics UV cured inks, inks containing Volatile Organic Compounds (VOC's), metallic inks Hot melt adhesives that plasticise at high temperatures

3.1.3 Compostable Packaging

Compostable packaging is manufactured with organic or synthetic materials that degrade over time and under specific conditions to return nutrients to the environment or leave no residue.
Bunnings recommends that compostable packaging is certified to the following standards:

Industrial Composting Standard – AS 4736:2006

- This standard is relevant to compostable materials that can be collected through the kerbside organics systems in Australia and New Zealand and processed in industrial and commercial scale composting facilities

Home Composting Standard – AS 5810:2010

- This certification is relevant to materials that safely degrade within home composting systems. In practice, there is usually a variation in different home composting environments which can affect either the time or degree of degradation that is achieved

Compostable packaging is not always a more sustainable alternative to recyclable packaging and therefore not preferred by Bunnings. Bunnings reserves the right to only accept compostable packaging on a case by case basis, with consideration to the circumstances outlined below:

- Many uncertified, degradable packaging materials do not break down completely, leaving undesirable contaminants such as chemical deposits and microplastics behind
- Compostable packaging materials (especially bioplastics) are difficult to distinguish from regular plastics unless they are clearly labelled, causing them to contaminate mechanical recycling streams
- Australia and New Zealand do not have enough infrastructure to process industrial organic waste and therefore a significant amount of compostable packaging is diverted to landfill
- Compostable materials that enter landfill decompose and generate toxic biogases that are hazardous to human health and the environment
- Compostable packaging may degrade prematurely under certain conditions, creating biosecurity issues such as mould which damages merchandise
- Oxy/oxo degradable, fragmentable, biodegradable plastics, Poly Lactic Acid (PLA), Polyhydroxyalkanoate (PHA), Polybutylene adipate terephthalate (PBAT) are not suitable for use at Bunnings.

3.2  Optimise Material Efficiency

A list of packaging materials that are commonly accepted by Bunnings is provided in the appendices of this document.

Packaging must protect Bunnings team members and consumers from harm while they are handling products, especially in instances where the contained product is heavy (above 10kg), has a blade, sharp edges or is awkward in shape or size.

After safety has been considered, the packaging materials should be optimised to be:

- Lightweight
- Minimised
- Capable of protecting the product from damage in the supply chain
- Either reusable, recyclable or compostable after use

Optimising the material efficiency of packaging materials includes the following actions:

- **Considering the trade-offs between different packaging materials**
  Example: Paper bag versus soft plastic bag
  A soft plastic bag is stronger and offers more puncture and moisture resistance than a paper bag. Plastic is transparent offering better visibility of the product. Both are lightweight however paper is more conveniently recycled through the kerbside system where as soft plastic can only be recycled through a limited store drop off option.

- **Understanding how a product moves through the supply chain**
  Example: Effects of product weight
  Heavy products may be lifted by mechanical aids such as forklifts that require a certain strength and gripping clearance on slip sheets or pallets for forklift access without damaging the products.

- **Maximising the ratio of the product volume to packaging**
  Example: Impact of oversized packaging
  Oversized packaging can be problematic in the following ways:
  - Void space inside the packaging can cause the product to move around in transit and become damaged from friction and knocks against the walls of packaging
  - Shipping cartons and the products they contain are vulnerable to crushing when stacked if there is too much unfilled space inside the box
  - More dunnage and fillers are required to stabilise the product inside the box
  - Less products will fit on a pallet, in shipping containers and trucks resulting in more handling throughout the supply chain

- **Using the minimum thickness and weight of packaging material for the protection and safety of the product**
  Example: Corrugated cardboard boxes
  Corrugated cardboard is available in single, double and triple wall configurations. The various thicknesses and flute types provide appropriate levels of strength and cushioning depending on the weight and fragility of the product. Using higher grades than is necessary adds weight and complexity.

Changing packaging can be challenging, especially for fragile products. Risks can be mitigated by engaging with the Bunnings team and completing a small trial with the new packaging before making a large-scale transition.

Another option is to review or consult test data for corrugated cardboard to estimate its suitability to protect a product and withstand supply chain conditions. Common tests are outlined below.

Table 5 – Corrugated Cardboard Tests

Test	Purpose
Box Compression Test (BCT)	A measure used to determine the compression strength required in corrugated cardboard boxes to support the product when stacked for warehousing and transportation
Edge Crush Test (ECT)	A laboratory test to measure the resistance of the walls in corrugated cardboard to crushing under a force
Burst Test	A laboratory test to measure the force required to pierce cardboard

3.3 Design to Reduce Product Waste

Product loss can also be minimised through better packaging design.

3.3.1 Avoid Product Damage

Bunnings has feedback systems in place to monitor the performance of packaging in our network of stores, trade centres and distribution centres.
Suppliers are notified of packaging that fails to protect products and leads to product loss and damage.

Identified packaging issues must be fixed immediately, in preparation for the next scheduled order or shipment to avoid unnecessary product waste.

3.3.2 Design Packaging to Reduce Product Waste

Consumer feedback and research can provide valuable insights into the most suitable pack size and format for a product and its packaging.

Understanding where and how a product is used can inform the way the packaging should be designed. In some instances, it can lead to improvements that offer better value for money by preserving the life of the product or controlling its consumption. Examples are:

- **Reusable carry cases**
  Preserve the lifetime of valuable products by protecting them from damage and rust

- **Chemicals**
  Airtight closures can preserve the product and stop it from drying out or becoming spoiled before it is used

- **Unit quantities that suit consumer needs**
  Selling a unit on its own (unpackaged) or in a small pack enables a customer to buy the quantity they need, reducing the likelihood of the surplus product becoming waste

- **Alternate product design**
  Dispensing a chemical as a tablet rather than a liquid makes the product lightweight for transport, uses less packaging and is portion controlled to avoid product over-use (waste)

- **Packaging shape**
  A different packaging shape may allow all the product inside the packaging to be dispensed completely, without leaving residues behind

3.4 Eliminate Hazardous Materials

3.4.1 Chemicals Used in the Manufacture of Packaging

Care must be taken to ensure that all the packaging is manufactured with consideration of potential environmental and social impacts. Materials of concern are:

- Poisons and chemicals harmful to living organisms
- Flammable, explosive, or corrosive chemicals
- Heavy metals such as cadmium, mercury and lead
- Ozone depleting or contribute to climate change

Bunnings requires manufacturers of products to purchase packaging from suppliers that minimise use of these chemicals in their manufacturing processes.

3.4.2 Chemical Residues in Used Packaging

Packaging containing products of a hazardous nature, should be designed to fully dispense the product from the packaging. In instances where these chemicals cannot be eliminated completely, the packaging should be labelled clearly to enable responsible disposal.

3.5 Use Recycled Materials

Packaging made using recycled materials generally uses less energy, water and creates less pollution than its virgin counterparts. Using recycled material in packaging can reduce manufacturing costs and environmental impact while supporting the circulation of existing materials through kerbside and other recycling systems.

Where available, packaging made from recycled materials is preferred.

By 2025 Bunnings aims to maximise the recycled content used in all packaging

The following table includes information to overcome potential barriers to using recycled materials in packaging.

Table 6 – Considerations for Sourcing Recycled Packaging Materials

Challenges	Mitigation
Limited supply	Research the availability of different recycled packaging materials in the markets where product manufacturers operate and form a plan to incorporate materials that are available
Cost	Begin by transitioning minor packaging components such as swing tags, cardboard sleeves and boxes Use recycled materials that are more widely available such as cardboard and paper. Incorporate a small percentage of recycled material into packaging initially, and increase it over time
Aesthetic or appearance limitations	The appearance of recycled materials in packaging may complement products and brands promoting sustainability, adding appeal to consumers Incorporate recycled materials into packaging that do not impact the aesthetics of primary or consumer facing packaging. Examples include shipping cartons, shelf ready trays, dunnage and dividers
Quality	Use pre-consumer recycled materials which are usually cleaner off-cuts and waste from industrial processes Source packaging materials from suppliers who can trace the origins of their materials and guarantee a more consistent product that meets your expectations in terms of the packaging strength, appearance, and odour. Trial different combinations of recycled materials to find the maximum amount that can be incorporated into packaging

3.6

Use Renewable Materials

Renewable packaging materials come from sources that can either be replenished, regrown or regenerated at a rate that is equivalent to the rate of harvesting. In addition, the land used to grow the raw materials for packaging should not compete with land required for crops that feed a population of people.

Table 7 – Renewable Materials

Material	Source	Accepted at Bunnings?
Corrugated cardboard, cardboard and paper	Trees	Yes
Biopolymers made from biological polymerization processes such as Polylactic Acid (PLA), polyhydroxy-alkenoates (PHA)	Biomass and plants such as agricultural waste	No Collection systems for these materials as waste are not readily available in Australia and New Zealand

Certification of packaging enables consumers to clearly identify the origins of packaging materials. To qualify for these accreditations, packaging suppliers must provide documentation on a regular basis to demonstrate that the materials they use can be traced to sustainably managed natural resources. For example fibre based packaging would be derived from sustainably managed forests and plantations.

Table 8 – Certifications for Renewable Materials

Material	Source
Fibre/Timber	Forest Stewardship Council (FSC®) Programme for the Endorsement of Forest (PEFC™)

Design to Minimise Litter

3.7.1 Reduce Packaging

Bunnings recommends that all suppliers assess each component of packaging to ensure that it serves a functional purpose.

Excess packaging often adds cost to a product and is also costly to remove as waste.

Additionally, the size, volume and weight of different packaging components may increase the likelihood of the packaging ending up as litter. For this reason, avoidance of the packaging types below is recommended.

- Packaging with tear strips that are too narrow to be practically recycled
- Small packaging components such as twist ties, rubber bands and small separators that are not recyclable and easily displaced
- Lightweight materials such as dust bags and shrink wrap that are not essential to the protection of a product. Bunnings aims to reduce soft plastic packaging since it is difficult to recycle and prone to becoming windblown litter
- Unnecessary plastic strapping on boxes, which can lead team members and customers to use risky techniques to handle heavy and oversized products. Strapping is also difficult to manage as waste since it is difficult to compress into bins and creates a trip hazard when it is not collected from shop floors

The following table should be used to determine whether strapping is required on boxes:

Table 9 – Strapping Guidelines

Type of Box	Weight	Strapping Required	Reason
Shipping carton containing multiple products	Any weight	No	Bunnings team members are required to lift these boxes using the technique displayed on the weight icon printed on the box
Shelf ready tray		No	Boxes are usually lightweight and easily secured with adhesive tape
Promotional carton with hood (i.e. for side stack)		No	Boxes are usually lightweight and easily secured with adhesive tape
Individual product box	<16kg	No	Boxes are easily secured with adhesive tape
Individual product box on its own pallet	>16kg	Yes	Boxes are usually awkward in shape and heavy. They are strapped to a pallet to be moved with mechanical lifting equipment (i.e. forklifts)
Individual product box		Yes	Suppliers to consult with the merchandising team to determine if strapping is required

3.7.2 Label for Responsible Disposal

Bunnings recommends the Australasian Recycling Label (ARL) as the standard on-pack label for the responsible disposal of packaging waste in Australia and New Zealand.
The ARL provides consumers in Australia and New Zealand with advice on how to separate packaging made from different materials before disposal. It has been designed to reduce the likelihood of contamination in recyclable waste.

There are three different labels that provide different levels of advice to consumers:

Recyclable Label
Packaging components with this label are recyclable through the kerbside co-mingled recycling bin collection serices in Australia and New Zealand

Conditionally Recyclable Label
Packaging components with this label are only recyclable if the instructions at the bottom of the label are followed

Not Recyclable Label
Packaging components with this label are unable to be recycled. These materials must be separated from recyclable materials prior to disposal so they do not contaminate the recyclable waste stream. Non-recyclable packaging components should be placed in the general waste bin for kerbside collection

For clear and effective communication, the ARL should not be used in conjunction with any other responsible disposal labels or symbols.

The table below outlines which products are required to feature the ARL and who's responsibility it is to apply the label.

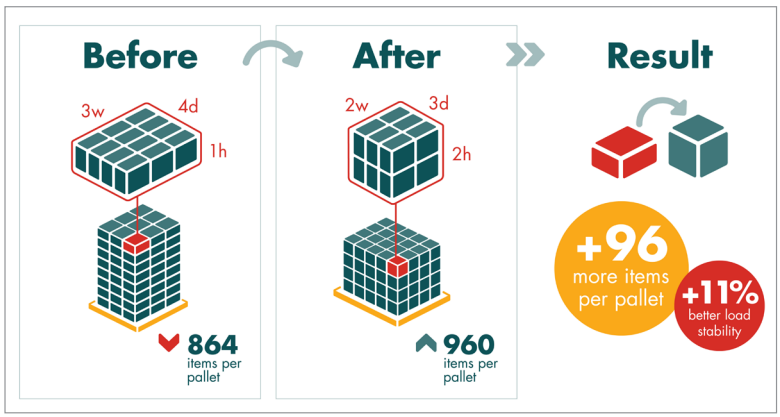
Table 10 – Responsibility to Apply ARL to Packaging

Product Brand	ARL Requirement	Responsibility	Details
Bunnings direct sourced, private label brands	Recommended	Bunnings Global Sourcing Team	Suppliers of products representing these brands will be asked to provide the material composition and weight of primary packaging that is supplied with each product Based on this information, Bunnings will provide advice on how to apply the ARL to packaging artwork
Supplier Brands to Australia	Best Practice	Supplier	Suppliers may have their own program for the introduction of the ARL, through membership with the Australian Packaging Covenant Organisation (APCO)
Supplier Brands to New Zealand	Best Practice	Supplier	Suppliers to New Zealand are encouraged to apply the ARL to improve the design of packaging for recyclability

Design for Transport Efficiency

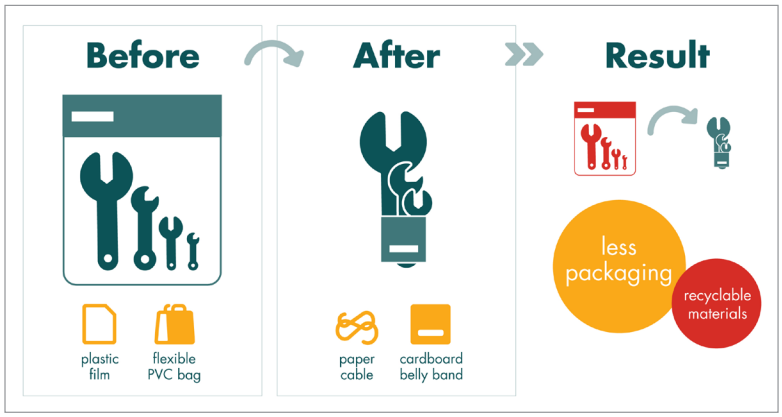
Products are transported to Bunnings locations using a variety of vehicles such as shipping containers, trucks, and courier vans. Transport efficiency is about utilising as much of the space onboard the vehicle as possible to reduce the number of trips that are required and the overall cost of transportation as is safely possible. Occasionally there will be trade-offs between packaging for transport efficiency and the safe and effective handling of products. Several scenarios may need to be modeled to arrive at the optimal solution.

The following actions can improve transport efficiency:



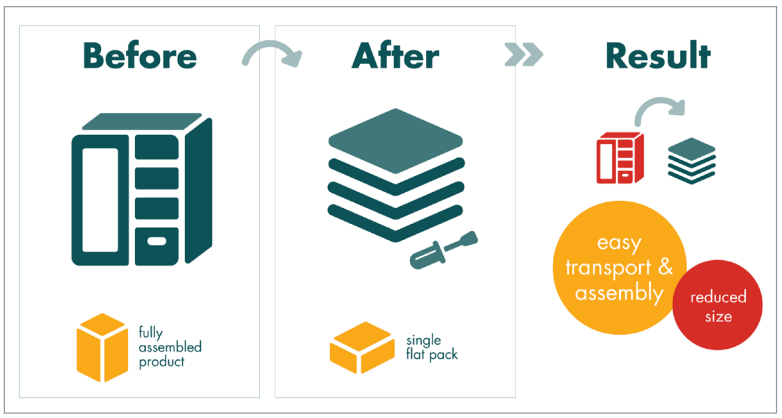
Consulting optimisation software to maximise the number of products that can be safely loaded and transported on a pallet and truck.

Example: Changing the arrangement of packaged products inside a carton on a pallet can increase the quantity of products per pallet and the stability of the load during transportation



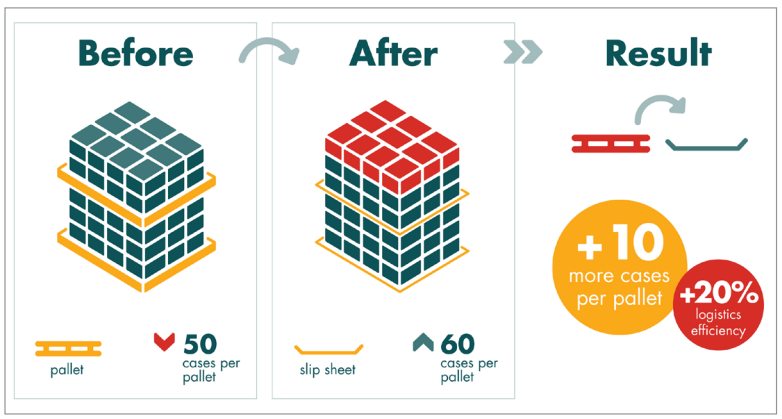
Removing unnecessary components or layers of packaging to change its size or shape and fit more products.

Example: Changing packaging from a plastic bag to a cardboard belly-band reduces the volume of packaging per product and increases the number of products that fit into a shipping carton



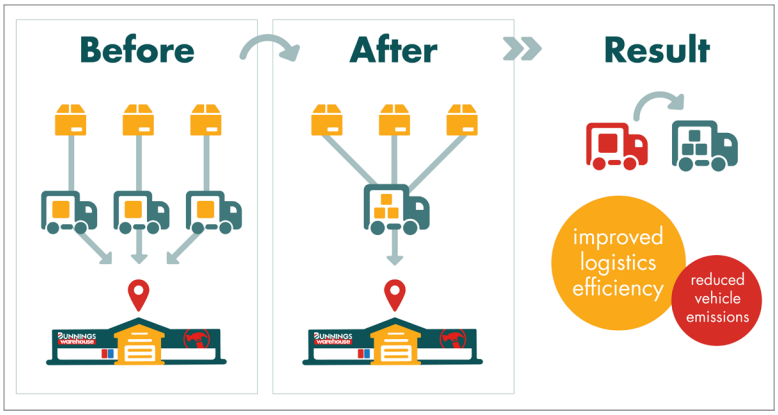
Redesigning a product to be compact for transportation and assembled easily by a customer.

Example: A shelving unit can be transported more efficiently if it is flat packed rather than assembled



Using a slip sheet to pack products into shipping containers rather than pallets where possible.

Example: Pallets occupy more volume than slip sheet and reduce the vertical space available to stack product



Consolidating products for transport to the same area or destination.

Example: Consolidating merchandise deliveries to the same destination or area reduces fuel consumption and pollution

3.9

Design for Accessibility

At all points in the supply chain packaging should be designed for the safe movement, handling, and access of products that are contained.
Accessible packaging has the following attributes:

- Integrated safety features to assist with the transportation, handling, and movement of the product
- Minimises the need for tools such as knives and blades to access the contents
- Uses simple and easy to understand language, images, and fonts to convey important information

Bunnings provides Shipping Platform Standards and Packaging Guidelines to support suppliers to design packaging that can be moved efficiently through Bunnings supply chain.

Some examples of accessible packaging are provided below, with the complete specifications available on the Bunnings website or upon request through the Merchandising Support team.

3.9.1 Tertiary Packaging

- All pallets and slip sheets are to be made and used to the size and strength standards specified by Bunnings so that they can be handled safely by mobile plant equipment
- Oversized, heavy and large boxes should have a non-gloss surface finish to prevent slippage when stacked for transport

3.9.2 Secondary Packaging

Shelf Ready Packaging (SRP) and cartons should be easy for store teams to open without tools.
Examples of some of the features that can be built into the design of the packaging are:

- Perforations with push in tabs that enable the top of the box to be separated from its base with slight force
- A hood secured to a base or tray with minimal pieces of tape
- Gripping points such as handles positioned at a comfortable distance for lifting, holding, and supporting the weight of heavy products without collapsing or tearing

3.9.3 Primary Packaging

Primary packaging is designed to meet a range of different business and consumer requirements.
Bunnings collaborates with suppliers on the accessibility of primary packaging to ensure that:

- The product can be handled safely in store, especially if it contains a blade or sharp objects
- Any applicable laws and regulations for storage and transportation are met
- Products are less vulnerable to theft and damage

Accessible packaging is designed for customers to read important information and open easily after purchase. Examples of accessible primary packaging include:

- Designing out sharp edges that make the packaging difficult to handle
- Displaying important instructions prominently on the packaging, using contrasting colours between the background and text for readability and language that is easy to understand
- Clear labelling with the best method or point for removing the packaging
- Provision for a perforated strip, starter tab or notch to open the packaging
- Grasp points on tabs and tear strips such as textured bumps or raised lines to facilitate grip when the packaging is forced open

Safety weight icons are to be clearly printed (to the standards identified in Bunnings guidelines) on all primary, secondary and tertiary packaging exceeding 10kg for all people in the supply chain to easily identify the safest way to handle the packaged product.

3.10  Provide Consumer Information on Environmental Sustainability

The benefits of sustainable packaging can be promoted with on-pack labels, pictures, and iconography. It is important for all on-pack claims to:

- Comply with the requirements specified by Australian and New Zealand laws, including consumer law legislation
- Meet the relevant certification scheme's trademark usage guidelines
- Be verified with supporting evidence (examples below)
- Be raised with the relevant buyer to ensure local standards are met in all markets where the product is offered

Examples of on-pack claims include the following:

Table 11 – Standards for Sustainability Claims on Packaging

Claim	Example of on-pack claim	Example of Supporting Evidence
Renewable materials	**FSC® Certification**	Membership to the certification scheme and invoices to demonstrate that materials from certified renewable fibre or timber have been purchased by the packaging supplier
	PEFC™ Certification	
Recycled content	**Global Recycled Standard©**	Membership to the certification scheme and invoices to demonstrate that recycled materials have been purchased by the packaging supplier
	"Box contains 20% recycled content"	
Packaging optimisation	**"Now with 20% less packaging"**	Life-cycle Assessments (LCA) (completed to ISO 1404) of a current and former packaging format for comparison

Marketing campaigns promoting the sustainability of packaging should comply with the relevant consumer laws and be communicated to the relevant buyer, to enable Bunnings to prepare for any consumer enquiries.

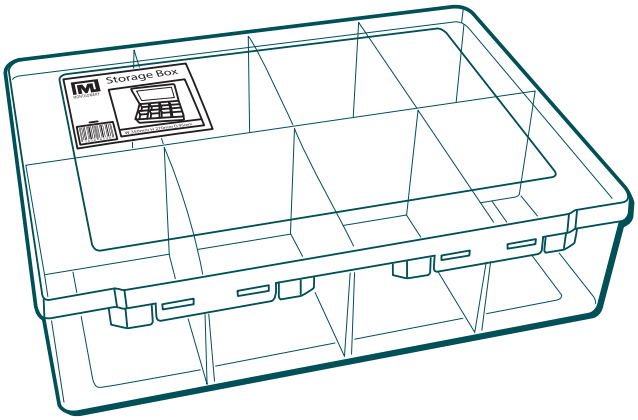
4. Designing Packaging for Bunnings

The following guidance is provided to assist suppliers with choosing packaging that is minimized and/or can be recycled through Australian and New Zealand kerbside systems.

4.1 Stickers

The specifications provided in this table are for adhesive stickers applied to the surface of a product as primary packaging.

Bunnings recommends that barcodes are printed directly onto the surface of the product where possible (i.e. in instances where instructions are not required for the safe use of the product and it does not affect the aesthetics of the installed product).
Direct printing eliminates the need for additional primary packaging and deters losses associated with barcode tampering.



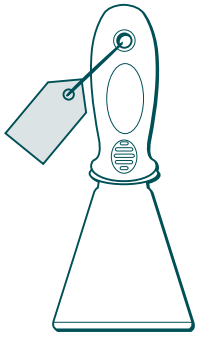
All barcode stickers should be designed to be tamperproof, meaning that they tear into multiple pieces when an attempt is made to remove them from the surface of the product.

	✔ Preferred	✖ Not to be used
Materials	Face stock made with paper or PP (5) for moisture resistance	Face stock made with Polyester, PVC (3), PVDC or PS (6)
Coatings and Pigments	Matte or gloss water soluble varnishes	Plastic films or laminates, UV varnishes, metallic, glitter and foil finishes, dark and heavily printed backgrounds
Inks	Water or vegetable-based inks	Inks containing Volatile Organic Compounds (VOCs), UV inks, metallic print, dark and heavily printed backgrounds
Adhesives	Water-based or acrylic adhesives	Hot melt adhesives
Design and Construction	Size should be minimised but may be tailored to suit the application of branding, the Australasian Recycling Label (ARL) and a barcode Plain barcode stickers should be designed to be tamperproof, meaning that the sticker is destroyed when an attempt is made to remove it from the surface of the product	Large and oversized labels

4.2 Swing Tags

The dimensions of swing tags should be approximately 8cm x 6cm and they are usually secured to a product with a cable or string tie.

Swing tags are very minimalist form of packaging, suitable for products that do not have sharp edges and are not vulnerable to damage.



	✔ Preferred	✖ Not to be used
Materials	Tag made from recycled, FSC® certified or regular paper and cardboard or PP (5) for moisture resistance and strength. Cord made with cotton, jute, raffia and strong fibre-based materials	Avoid Tags made from Polyester, PVC (3), PVDC or PS (6) Avoid cord made from nylon, steel ball chain, polyester, composite textiles or ribbon
Coatings and Pigments	Matte or gloss water soluble varnishes, less than 5% PE coating one side only	Avoid plastic laminates, coatings of more than 5% PE or PP
Inks	Water or vegetable-based inks Light coloured backgrounds aside from branding	Avoid inks containing Volatile Organic Compounds (VOCs), metallic print, dark, solid printed backgrounds
Design and Construction	Size should be minimised but may be tailored to suit application of branding, product information, the Australasian Recycling Label (ARL) and a barcode	Unnecessarily large and oversized tags

4.3 Boxes

Boxes for primary packaging can be produced in several different formats.

- Boxes that are designed to display the internal product can be made of clear plastic or corrugated cardboard with either an opening or a clear plastic window
- Boxes with a tab so they can be merchandised in store on a hook
- Boxes made of corrugated cardboard to provide the strength to support the weight of products, especially when stacked for transport and storage
- Boxes with a hood or lid that can be detached from the base as promotional displays in store

The way a product sits inside a box is important. Too much void space allows the product to move around and may lead to product damage. It also makes it necessary to add extra packaging such as trays, dividers and dunnage.

	✔ Preferred	✖ Not to be used
Materials	Box made from recycled, FSC® certified or regular cardboard Transparent boxes or lids made with PET (1) Transparent windows made with LDPE (4)	Box made from non-tree fibres (bagasse and bamboo) or recycled fibre with strong doors Transparent boxes or lids made with PVC (3) or PLA Transparent windows made with PVC (3), multilayered films or degradable plastics
Coatings and Pigments	None or clay, less than 5% by weight LDPE (4) on one side only	UV cured varnishes or varnishes that break down into microplastics, laminated plastics, PP5 (5) or more than 5% by weight LDPE (4)
Inks	Water or vegetable-based inks printed directly on the surface with light colours	Inks containing Volatile Organic Compounds (VOC's), UV cured inks, metallic inks
Adhesives	Minimise application of water-based cold-set, curable wash release adhesives	Hot melt adhesives and adhesives that plasticise at temperatures above 35°C
Design and Construction	Made entirely with cardboard or cardboard with an open window for visibility of the product. Clear windows should be avoided or easy to separate from the cardboard box Plastic handles permitted for large, oversized boxes and boxes where it supports safer handling. Large box flaps at the base and top of the box preferred to support heavy products and minimise use of adhesives	Avoid shrink wrap (unless required to meet regulations) Avoid unnecessary sleeves, stickers, strapping and paper bands

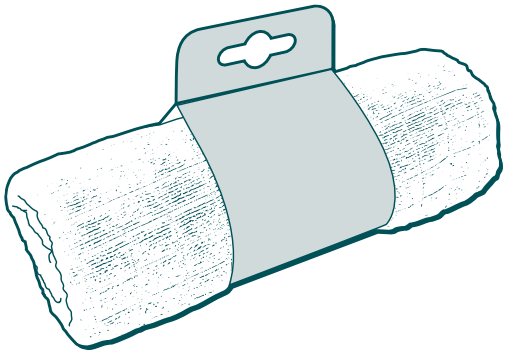
	✔ Preferred	✖ Not to be used
Design and Construction (.cont)	Optimise the flute and thickness of cardboard to the weight of the product using predictive or measured compression tests based on suitable transit safety factor Maximise the product to box-size ratio for non-fragile products to reduce void space, which causes crushing of the packaging and the need for fillers and dunnage Rough surface finish preferred to prevent boxes from sliding when stacked and transported For Regular Slotted Container (RSC) style, target 2:1:2 ratio of Length:Width:Height to minimise cardboard area to hold a given volume of product Labels on PET (1) boxes and lids to be made with paper and cover less than 40% of the surface area	Avoid plastic hooks, embellishments with glitter, textiles, metallic eyelets and magnetic closures Avoid over specifying the flute and grade of cardboard, for example using double-walled cardboard when single-walled cardboard will support the weight of the product (refer to burst and edge test charts)

4.4 Dunnage and Void Fill

Dunnage and void fill describe loose packaging that is used to fill empty space and stabilise a product inside packaging such as boxes and shipping containers.

	✔ Preferred	✖ Not to be used
Materials	Trays to be made of recycled cardboard, FSC® Cardboard or regular cardboard Fillers made from paper, cardboard, single lined corrugated cardboard, clear LDPE (4) bubble wrap and clear LDPE (4) air cushions	Avoid trays made from PVC (3), PS (6) and EPS. Avoid fillers made from waxed paper, expanded polyethylene (EPE), expanded polypropylene (EPP), expanded polystyrene (EPS) and compostable materials Avoid timber such as MDF, particle board and plywood
Design and Construction	Maximise the product to box-size ratio for non-fragile products to reduce void space, which causes crushing of the packaging and the need for fillers and dunnage Use trays with slots that secure a product inside packaging to prevent it from moving around	

4.5 Cards, Sleeves and Bellybands



These types of packaging may be used on their own or with other packaging materials.

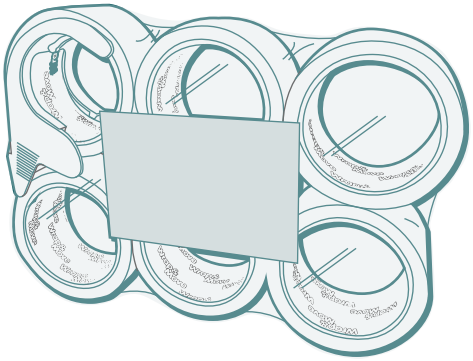
Sleeves and belly bands are a strip of packaging material that is wrapped around the product.

Header cards are fixed to the top of either a polybag or the product itself so that it can be merchandised on a hook in-store.

Insert cards are placed inside clear plastic packaging such as clamshell packs, polybags and wrappers to display branding and other critical information about the product.

	✔ Preferred	✖ Not to be used
Materials	Card, band, or sleeve made from recycled, FSC® certified or regular paper and cardboard	Avoid card, band, or sleeve made from Polyester, PVC (3), PVDC or PS (6)
Coatings and Pigments	Clay, matte or gloss water soluble varnishes, less than 5% PE coating one side only	Plastic laminates, more than 5% PE or PP coating or metallic finishes
Inks	Water or vegetable-based inks, light coloured backgrounds aside from branding	Inks containing Volatile Organic Compounds (VOCs), metallic print, dark, solid printed backgrounds
Adhesives	Minimise application and use water-based, cold-set, curable wash release (compatible with the pulping process for cardboard)	Metal staples, hot melt adhesives or adhesives that plasticise at more than 35 degrees Celsius
Design and Construction	Size should be minimised but tailored to suit application of branding and a barcode	Avoid reinforced eyelet holes

4.6 Soft Plastic



Soft plastic packaging is usually used to contain small products and accessory parts. Alternatively, it can be used to protect products from moisture or fine dust particles.

Examples of soft plastics are polybags, films, shrink wrap and wrappers.

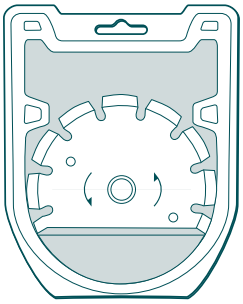
Opaque plastics are more difficult to recycle and should only be used to protect products from light and UV radiation, which can cause product discolouration or degradation.

	✔ Preferred	✖ Not to be used
Materials	Bags and wrappers made of more than 80% clear or natural tinted HDPE (2), LDPE (4) or PP (5) or BOPP and less than 20% of another of these polymers as a secondary material	Bags and wrappers made from Expanded Polyethylene (EPE), PET (1), PVC (3), PVDC, PS (6), Other (7) plastics, compostable, degradable or oxo degradable plastics
Coatings and Pigments	Less than 10% by weight nylon and EVOH	Foils, paper and laminated plastic films
Inks	Minimal print directly on the surface of the plastic	Large sections of dark coloured ink printing and metallic print
Adhesives	Water soluble at less than 60°C	Non-water soluble inks
Design and Construction	Coloured plastic is acceptable if the contained product is sensitive to UV light sources If closures are required, design them to be separable and label for removal upon disposal Reconsider the need for polybags inside other forms of packaging such as boxes and clamshell packs Print the Plastic Identification Code (PIC) on bags and wrappers that are not labelled with the Australasian Recycling Label (ARL)	Avoid stickers to apply branding and instructions by using separable paper or cardboard cards sealed inside a clear plastic bag Avoid composite and laminated plastic films including Other (7) plastics, plastic coated with paper, plastics coated with aluminium or any other plastic Avoid degradable, compostable and bio-based plastics such as PLA, PA, PHA Avoid closures, especially metal or rigid plastics such as nylon

4.7 Thermoformed Plastics

Thermoformed, clear plastic packaging is used to display the colour, shape or size of a product.

Examples include plastic clamshell packaging, plastic trays inside boxes and the plastic component of blister packs.



	✔ Preferred	✖ Not to be used
Materials	Thermoformed clamshell or blister style packaging to be made from rPET (1) or PET (1)	Avoid PVC (3), compostable plastics such as PLA or PHA
Coatings and Pigments	None – mono or single materials preferred	PETG, CPET, EVOH and nylon barriers
Inks	None	Opaque or pigmented PET (1) and metallic inks
Adhesives	Minimal applications of glue soluble in alkaline conditions between 60 – 80 degrees Celsius Heat sealed clamshell packs	Non water soluble or dispersible adhesives
Design and Construction	Reduce plastic as much as possible Label blister packs made with thermoformed plastics and cardboard as separable for disposal Preferred seals for clamshell packs are button seals, rail seals or heat seals	Avoid oversized plastic packs with a high ratio of plastic packaging to the contained product Avoid blister packs that are cold sealed with the thermoformed plastic trapped between two pieces of cardboard or paper (difficult to separate) Emboss with the Plastic Identification Code (PIC) if it is not labelled with the Australasian Recycling Label (ARL) Avoid applying stickers to the surface of the plastic

4.8 Plastic Containers, Bottles and Tubs

The standards for rigid plastic containers, bottles and tubs depends on the type of plastic used for the main body of the packaging.

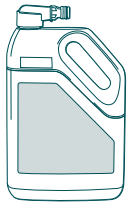
4.8.1 Polyethylene Terephthalate [PET (1)]

PET plastic is used in the packaging for household cleaning chemicals such as turpentine and citronella oil or storage of small hardware components, such as screws.

	✔ Preferred	✖ Not to be used
Materials	Bottle made from clear or natural rPET (1) or PET (1) Lid made from rPET (1), PET (1), HDPE (2) or PP (5) Label made from HDPE (2), LDPE (4), PP (5) or plastics with density less than 1g/cm$^{2.}$	Bottle or lid made from PVC (3), PS (6), PETG, degradable plastics such as PLA or PHA. Label made from PVC (3), PS (6), PETG, degradable plastics such as PLA and PHA, metal foils
Coatings and Pigments	Silicon Oxide or Aluminium Oxide	Nylon, EVOH, opaque coloured PET (1), titanium dioxide or carbon black pigments
Inks	Embossing or laser marking	Extensive, ink printing directly on the plastic surface, hazardous inks and inks that bleed
Adhesives	Minimal glue coverage with glues that are soluble at 60-80°C in alkaline conditions	Avoid non-water soluble adhesives and large sections of glue coverage on pressure sensitive adhesive labels
Design and Construction	Clear or natural PET (1) preferred Transparent or light blue tinted PET (1) acceptable where clear or natural PET (1) is not available Closure systems without liners preferred	Avoid lid closure liners with metals, foils, wadding and silicone Label to cover less than 40% of the surface area of the bottle Emboss the underside of the packaging with the Plastic Identification Code (PIC) for easy identification Avoid UV stabilisers, optical brighteners and oxygen absorbers if possible

4.8.2 High Density Polyethylene [HDPE (2)]

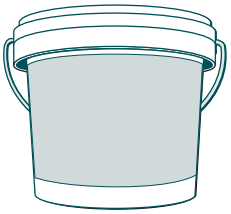
HDPE is used for bottles such as garden care dry and granulated feed and chemical containers such as cleaning sprays.



	✔ Preferred	✖ Not to be used
Materials	Bottle made from clear or natural rHDPE (2) or HDPE (2) Lid made from rHDPE (2), HDPE (2) or LDPE (4) Label made from HDPE (2), LDPE (4) or other forms of PE	Any component (Bottle, lids, or labels) made from PET (1), PET-G, PVC (3), PVDC, PP (5) PS (6), nylon, silicone, degradable plastics such as PLA or PHA, metals and foils
Coatings and Pigments	EVOH (with limits), Silicon Oxide, Aluminium Oxide and carbon plasma coating for pigmented HDPE (2)	Calcium carbonate, foaming agents for chemical expansion, titanium dioxide, carbon black
Inks	Embossing or laser marking	Extensive, ink printing directly on the plastic surface, hazardous inks and inks that bleed
Adhesives	Minimal glue coverage with Glues that are non-toxic and washable under caustic wash conditions of pH greater than 12 temperatures above 40 degrees Celsius	Avoid large applications of glue and adhesives that are not water soluble
Design and Construction	Clear or unpigmented HDPE (2) preferred Recycled HDPE (2) preferred where UV protection or pigmentation is required Closure systems without liners preferred however Ethyl Vinyl Acetate (EVA) and Thermoplastic Elastomers are acceptable Label to cover less than 40% of the surface area of the bottle Emboss the underside of the packaging with the Plastic Identification Code (PIC) for easy identification Pump systems made with springs and alternate polymers are to be separable for disposal	Avoid lid closure liners with PP (5), metals and foils

4.8.3 Polypropylene [PP (5)]

Polypropylene packaging is commonly used for tub style packaging with a flat lid. It is used in powdered building products, festive lighting, hardware fixings and granulated garden fertilisers, powders, greenlife pots and labels.



	✔ Preferred	✖ Not to be used
Materials	Tub, lid and handle made from clear or natural rPP (5) or PP (5) Label made from paper PP (5) including orientated PP (OPP) and Biaxially orientated PP (BOPP)	Bottle or lid made from PET (1), HDPE (2), PVC (3), PVDC, LDPE (4), PET-G, PS (6), nylon, silicone, degradable plastics such as PLA or PHA, metals and foils Label made from PET (1), HDPE (2), PVC (3), PVDC, PS (6) or degradable plastics
Coatings and Pigments	No coatings preferred however silica and alumina coatings are acceptable and carbon plasma coating for coloured tubs only Pigments without titanium dioxide and carbon black	Pigments containing titanium dioxide and carbon black* *excluding packaging for greenlife until viable alternatives are available
Inks	Embossing or laser marking, preferred to printing	Extensive ink printed directly on the plastic surface, hazardous inks and inks that bleed
Adhesives	Minimal glue coverage with adhesives that are non-toxic and washable under caustic wash conditions of pH greater than 12 and temperatures above 40 degrees Celsius	Avoid large applications of glue and adhesives that are not water soluble
Design and Construction	Clear and unpigmented rPP (5) and PP (5) preferred rPP (5) preferred if the packaging is to be pigmented for UV protection Greenlife pots, punnets, trays and cell trays to be made with colours that maximise the incorporation of recycled materials in the packaging Label to cover less than 40% of the entire surface area	Avoid Lid closure liners Avoid additional and unnecessary packaging items in Greenlife such as plastic proclips, prosticks and display stakes in Greenlife pots Avoid metal handles

5.0 APPENDIX 1: Packaging Materials

5.1 Definitions

Term	Definition
Accessibility	Relates to the ease of use a consumer experiences when completing tasks. For packaging, this includes factors such as safe handling, ease of opening and readability of labels
BOPP	Biaxially Oriented Polypropylene is a polypropylene (PP5) film that is stretched in two directions during manufacturing
Business-to-business packaging (B2B)	Packaging used to distribute products between businesses or business units
Certified compostable	Certified compostable means that claims comply with Australian Standard 4736- 2006, and have been verified as compostable
Design	Includes choice of materials, additives, colours, labels, glues, inks, caps and closures, format, dimensions, etc
End-of-life	A term used to describe the expected disposal option for packaging when the customer/consumer has removed the product
EVOH	Ethylene-vinyl alcohol (EVOH) is a flexible, clear, glossy plastic used to coat packaging and create barrier resistance against gases such as oxygen, nitrogen, and carbon dioxide that can spoil a product
Hazardous substances	Are 1) toxic to humans or other living organisms; 2) flammable, explosive or corrosive; 3) ozone depleting; or 4) contribute to climate change. Examples often mentioned for packaging include heavy metals (e.g. in some inks and pigments), Bisphenol A (in polycarbonate plastics and the lining of steel cans) and plasticisers (e.g. some phthalates in PVC plastics)
Jute	A plant based fibre spun into coarse, strong threads and used to make burlap and hessian cloth
Labelling	Can be in the form of a statement, symbol or graphic on a purchased product at any point in the supply chain, but most commonly used at the final point of sale (e.g. retail)
Hot Melt Adhesives	Plasticised adhesives that liquefy when heated and are be applied to bond materials together
LLDPE	Linear Low Density Polyethylene
Litter	Discarded packaging waste that has been disposed of improperly by accident or deliberately in an open or public place. Littered packaging like plastic wrap, cans and bottles can exist in the environment for long periods of time and cause serious environmental issues in some areas, particularly if it enters waterways and sensitive environmental areas
MDF	Medium Density Fibreboard
MDPE	Medium Density Polyethylene
OPP	Oriented Polypropylene, a polypropylene (PP5) film that is stretched in the longitudinal direction during manufacturing
Optimised (material efficiency)	No further reductions in packaging weight or volume are possible at the present time

Term	Definition
Organics recycling	The treatment of separately collected organics waste by anaerobic digestion, composting or vermiculture
Pallet utilisation	The percentage of the total available pallet area that is actually occupied by a product
PE	Describes a group of plastics which include Low Density Polyethylene (LDPE), Linear Low Density Polyethylene (LLDPE), High Density Polyethylene (HDPE), and Medium Density Polyethylene (MDPE)
PBAT	Polybutylene adipate terephthalate is fully derived from fossil-fuels but can be combined with a plant-based plastic such as PLA
PHA	Polyhydroxyalkanoate is a group of bio-based polymers that are manufactured from bacterial fermentation
PLA	Poly Lactic Acid is a group of bio-based polymers manufactured from the bacterial fermentation of sugarcane or corn starch
Polyester	A material derived from synthetic fibres that are manufactured from petroleum
Recyclable packaging	A packaging or packaging component is recyclable if collection, sorting and recycling is proven to work in practice and at scale
Recycled content	Is the proportion, by mass, of pre-consumer and post-consumer recycled material in packaging (AS/ISO 14021). 'Pre-consumer' material is material diverted from the waste stream during manufacturing (excluding rework). 'Post-consumer' material is material waste generated by households or by commercial, industrial and institutional facilities. The amount of renewable or recycled material is expressed as a percentage of the quantity of packaging material put onto the market
Recycling	Includes both material recycling (maintaining material structure) and chemical recycling (e.g. breaking materials down into more basic building blocks)
Recoverability	Recoverability of packaging refers to the availability of systems for collection, reuse, recycling, composting or energy recovery
Renewable material	Renewable material is composed of biomass from a living source and that can be continually replenished. Renewable materials include paper and cardboard from sustainably grown wood fibre, or a biopolymer from a sustainable source
Reuse	An operation by which packaging is refilled or used for the same purpose for which it was conceived, with or without the support of auxiliary products present on the market, enabling the packaging to be refilled
rPET	Recycled Polyethylene Terephthalate [PET (1)]
rHDPE	Recycled High Density Polyethylene [HDPE (2)]
rPP	Recycled Polypropylene [PP (1)]
VOC	VOCs are a group of carbon-based chemicals that easily evaporate at room temperature. Common VOCs include acetone, benzene, ethylene glycol, formaldehyde, methylene chloride, perchloroethylene, toluene and xylene
FSC	Forrest Stewardship Council Certification
PEFC	Programme for the Endorsement of Forest Certification
GRS	Global Recycled Standard

5.2 Packaging Materials

Material Description Examples

Material	Description	Examples
Fibre	Cellulose based materials derived from pulping trees and plants into pulp	Paper, kraft paper, Cardboard, corrugated cardboard, grey board Moulded pulp- made from fibrous materials such as recycled paper and cardboard
Timber	Wood from trees Wood particles mixed with resin to manufactures sheets	Pine used to make pallets, crates, and frames Sheet timber such as - particle board, MDF and plywood Wood wool made of wood shavings and slivers cut from trees
Rigid Plastics	Plastics that are difficult to bend or crush	Detergent bottles, tubs, buckets, plant pots
Recycled rigid plastics	Materials manufactured from recycled rigid plastics	rPET, rHDPE, rPP
Soft/flexible plastics	Plastics that can be scrunched into a ball	Plastic bags, stretch wrap, timber coverings, polybags made from laminated films, PE or a mixture of polymers
Rigid metals	Metals that are difficult to bend or crush	Aluminium and steel sheets, strips, or brackets
Flexible metals or foils	Metals that can be scrunched into a ball	Aluminium foil, metal filament in twist ties
Degradable materials	Are designed to break down to an unspecified extent, usually in an unspecified timeframe and in an unspecified end environment	Biodegradable plastics, oxo-degradable plastics, degradable plastics
Compostable Packaging	Materials that biologically decompose and disintegrate in a home or commercial composting facility over specified conditions and a defined timeframe	PLA, PHA, PBAT
Textiles	Materials that are woven into fabrics	Cotton, Wool, Jute, Polyester

5.3 Plastic Identification Code (PIC)

The PIC identifies the type of polymer used to manufacture the packaging.

Code	Name	Abbreviation	Common Uses
	Polyethylene Terephthalate	PET	Water bottles, soft-drink bottles, fruit juice bottles, fruit punnets and plastic meat trays
	High Density Polyethylene	HDPE	Opaque milk bottles, bleach bottles, laundry bottles
	Polyvinyl Chloride	PVC	Clear cordial, liquid soap bottles and fruit juice bottles
	Low Density Polyethylene	LDPE, LLPDE, MDPE	Plastic bags, garbage bags, squeeze bottles, chip packets, plastic wrap, black irrigation tube
	Polypropylene	PP	Bottles, caps and rigid packaging like margarine containers, ice cream containers and yoghurt pots
	Polystyrene	PS	Coffee cup lids, plastic cups, clamshells, coat hangers, medical disposables, some yoghurt & dairy containers
	Expanded polystyrene	EPS	Foam packaging, packing peanuts, styrofoam boxes
	OTHER: includes all other resins and multi materials of various composition, acrylic, nylon, polyurethane (PU), polycarbonates (PC) and phenolics		Automotive, aircraft and boating, furniture, electrical and medical parts

6.0 APPENDIX 2: Sustainable Packaging Checklist

Version: 1 October, 2022

Step 1: Provide details of the packaging review.

Step 2: Provide actions and opportunities for improvement.

Date of Review:			
Name of Reviewer:		**Position Title:**	
Item Number/s:			
Actioned By:		**Actioned Date:**	

Question	Step 1: Review Details	Step 2: Recommended Actions
1. Designed for Recovery		
1. Does the packaging only use GREEN materials and formats from the Bunnings Packaging Selection Guide?		
2. Does any of the packaging include the Australasian Recycling Label (ARL)?		
3. Are packaging components made from different materials easy to separate for disposal?		
4. Are there any opportunities to change the design of the packaging to improve its recyclability?		
5. Do you need to provide any specific instructions to consumers to improve the recyclability of the packaging (e.g. flatten, clean, etc.)?		
2. Packaging is Optimised		
6. Could any component of packaging be eliminated or reduced? Please specify.		
7. Could the packaging be a thinner or lighter material? Consider trade-offs with recyclability such as soft plastic vs cardboard.		
3. Reduces Product Waste		
8. Can the packaging be improved to reduce waste and damages in the supply chain?		

Question	Step 1: Review Details	Step 2: Recommended Actions
4. Hazardous Materials		
9. Does your organisation use any RED materials from the Bunnings Packaging Selection Guide (inks, pigments, coatings, plasticisers etc) to manufacture packaging? Can these materials be reduced/eliminated?		
10. Does the packaging itself contain any potentially hazardous substances? Can these materials be reduced/eliminated?		
11. Has packaging been labelled for responsible disposal of hazardous waste (including the container and residues)?		
5. Recycled Materials		
12. Does the packaging include recycled content? If so, how much (% by weight)? Can it include more recycled content? Why/why not?		
6. Use of Renewable Materials		
13. Are any of the materials used in the packaging made with renewable materials (fibre, timber, cardboard etc)? Is there potential to use certified renewable materials (FSC, PEFC etc)?		
7. Design to Minimise Litter		
14. Is the packaging: - Likely to be opened and disposed of away from home such as on a job site? - Comprised of small parts such as twist ties, elastic bands and small separators? - Include flexible/soft plastic?		
8. Design for Transport Efficiency		
15. Is there potential to improve pallet utilisation by redesigning the packaging?		
16. Can the secondary or tertiary packaging be changed to improve container utilisation and handling? Examples: Changing pallet to slip sheet.		
9. Design for Accessibility		
17. Are tools required to open the packaging? The use of tools such as knives, and scissors should be avoided.		
18. Can the primary, secondary or tertiary packaging be changed to improve safety and handling? i.e separate heavy items into two snaller and lighter boxes, adding handles, strapping to a pallet etc		

Question	Step 1: Review Details	Step 2: Recommended Actions
19. Could the labelling on the primary, secondary or tertiary packaging be improved for easy identification or improved shipping and handling? Example: tear notches to be added and called out to customers for easy opening of bags		
10. Provide Consumer Information on Environmental Sustainability		
20. Has the packaging been labelled with any environmental claims relating to the packaging materials (e.g. recycled content or sustainable sourcing of materials)? Note: Bunnings cannot accept compostable materials that are not certified to the Australian standards for Home and/or Industrial compostability		
21. Can the environmental claims on packaging be verified (i.e is there documentation to confirm that it is made from recycled/ renewable materials)? Trademarks required. Examples: FSC, PEFC, GRS etc		