

Freight Preparation Guideline

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1. INTRODUCTION

Freight destined for Arrow sites in Australia and road freight returning from Arrow sites typically travels significant distances and passes through several points of handling before reaching its final destination. What may be considered sufficient preparation for a metro or short distance delivery will not always suffice for freight dispatched to regional or remote areas. For example, where freight is transported over long distances, a metal strap over an item on a softwood pallet will often be in a poor state before reaching its final destination.

This, in turn, can present a hazard to suppliers, Arrow employees, transport providers, other road users and the general public.

With this in mind, freight must be presented in such a manner that it:

- Can withstand road transport over long distances and rough terrain;
- Can be safely lifted on and off transport vehicles;
- Minimises the risk of injury to those involved in freight and handling;
- Minimises the risk of damage to that particular item; and
- Minimises the risk of damage to other freight, other road users or the general public.

This document covers the **minimum** requirements for the presentation and packaging of inbound and outbound goods and equipment for delivery into or within Australia.

It is the consignor's responsibility to comply with this document and the specific requirements of the relevant Australian Standards and legislation for the goods, equipment or materials being transported. This document also states the requirements for documentation, marking and protection to be observed for all freight to and from Arrow sites within Australia.

2. PURPOSE

The purpose of this document is to articulate the freight preparation and handling requirements for Arrow. This document covers the preparing of materials, equipment and machinery for dispatch via a third-party logistics provider (3PL), external transport provider or Arrow-owned and operated vehicle.

This includes the approach taken with regards to:

- Compliance with legal obligations of consignors/receivers and loader/packers under Chain of Responsibility legislation; and
- Duty of care as defined by the Work Health and Safety Act 2011 The aim of this freight preparation document is to:
 - Protect our staff, environment, contractors and members of the public from the risk of accidents and incidents occurring as a result of non-compliance by Arrow and our suppliers of goods and services with existing relevant Australian Standards, Legislation and guidelines;

- Take all reasonable steps to ensure that Arrow personnel, when consigning goods from sites, comply with this document;
- Ensure that staff and contractors of Arrow comply with all heavy vehicle laws, including those relating to mass, dimension and load restraint; and
- Assist Arrow, its transport providers and suppliers to comply with the Chain of Responsibility Laws in Australia.

3. SCOPE

The scope of this document covers all freight that moves to or from an Arrow site of operation. It is to be read and followed by suppliers, transport providers and requisitioners, particularly by staff involved in packing and securing items for transportation.

This document applies to all Arrow personnel (full time, part time, temporary and casual), contractors and sub-contractors handling freight in support of Arrow operations.

4. STANDARDS AND CODES

The management of Arrow freight shall be carried out in accordance with, but not limited to, the latest revision of the following standards:

Document Number	Document Title
ADG7	Australian Dangerous Goods Code 7th Edition
LRG	Load Restraint Guide 2018
AS 2400	Packaging
AS 2852	Packaging- Pictorial marking for the handling of packages
AS 3711	Freight Container
AS 4068	Flat pallets for material handling
IMDG	International Maritime Dangerous Goods Code

5. LEGISLATION

5.1 Transport Regulations

Arrow fully supports and expects all suppliers, contractors, sub-contractors and transport providers to comply with the Queensland Transport Operations Road Use Management Act 1995 and its subsequent regulations including (but not limited to):

- Transport Operations (Road Use Management – Dangerous Goods) Regulation 2008

The Heavy Vehicle National Law (2012) (HVNL) and its subsequent regulations including:

- Heavy Vehicle (Fatigue Management) National Regulation
- Heavy Vehicle (General) National Regulation
- Heavy Vehicle (Mass, Dimension and Loading) National Regulation
- Heavy Vehicle (Vehicle Standards) National Regulation

5.2 Chain of Responsibility

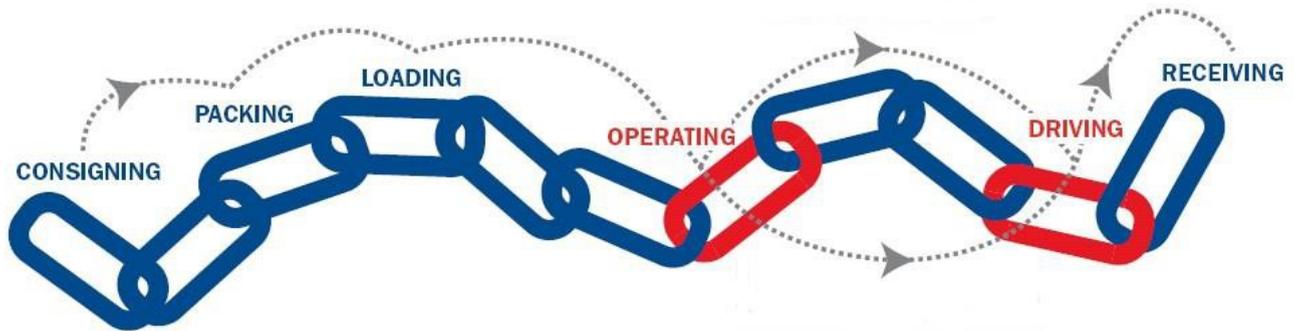
Chain of Responsibility (CoR) legislation aims to improve road safety and minimize negative impacts on the environment, road infrastructure and traffic management associated with breaches of the aforementioned heavy vehicle road laws. It ensures that anyone who uses road transport as part of their business activities can be held responsible for breaches of road laws and may be held liable. It requires users to share responsibility for safety on the road and exercise due care by taking reasonable steps to prevent safety breaches. This includes but is not restricted to:

- Adhering to regulated hours for working.
- Taking regulated rest breaks.
- Knowing the vehicle's mass and dimension limits so they are not exceeded.
- Ensuring the load is properly restrained.
- Goods are able to be adequately restrained.
- Observing speed limits.
- Checking the adequacy and condition of restraining equipment.
- Vehicles are roadworthy at all times.

Under the CoR laws, all parties with who have influence or control in the transport chain now have legal responsibilities to ensure compliance with relevant heavy vehicle road laws, including compliance with mass, dimension and load restraint obligations, speeding and fatigue management, and Vehicle Standards and maintenance. This includes people involved in consigning, loading, packing and receiving freight (or managing those activities), as well as drivers of those vehicles. If a person plays a role in the transport of goods (or passengers) by road, then they are part of the Chain of Responsibility (CoR).

For the definition of each party in the CoR supply chain refer to HVNL.

A consignor's packaging methods should be documented in their supply chain Risk Assessment showing the controls they have in place to meet or exceed the Loading Performance Standards documented in the Load Restraint Guide 2018.



The law requires that you have procedures in place to ensure compliance and you take all **steps reasonably practicable** to prevent your conduct from causing or contributing to a breach.

Further information on Chain of Responsibility can be found at the National Heavy Vehicle Regulator (www.nhvr.gov.au) and the National Transport Commission (www.ntc.gov.au).

5.3 CoR Responsibilities

CoR Party	Responsible For
<p>Consignors/ Receivers</p>	<ul style="list-style-type: none"> • Ensure loads do not exceed mass or dimension limits and are appropriately restrained • Check that operators carrying freight containers have a valid container weight declaration • Your delivery requirements must not require or encourage drivers to: <ul style="list-style-type: none"> – exceed the speed limits – drive while impaired by fatigue – exceed regulated driving hours – fail the minimum rest requirements. • Consult with other parties in the chain to identify risks and issues that may contribute to breaches of the HVNL. • Observe, Record and Report any vehicle roadworthy concerns to appropriate supply chain partners. <p>Also has a responsibility for ensuring goods carried on Arrow's behalf:</p> <ul style="list-style-type: none"> • Do not exceed vehicle dimension limits; • Do not cause vehicle mass limits to be exceeded; • Are appropriately secured; • Have appropriate documentation attached; and • Are correctly packaged for consignment. • Goods carried on your behalf are able to be appropriately restrained • Where required have the appropriate DG Placard displayed on the truck and the DG manifest. • If goods being transported are classified as DG ensure the vehicle is appropriate, registered and approved for the service.

CoR Party	Responsible For
Loading Managers /Packers/Loaders	<ul style="list-style-type: none"> • Ensure that loading a heavy vehicle will not cause or contribute to the driver driving while impaired by fatigue • Work with other off-road parties to make reasonable arrangements to manage loading/unloading times • Ensure vehicle loading/unloading does not cause delays and advise drivers of any delays of more than 30 minutes • Ensure loads: <ul style="list-style-type: none"> – do not exceed vehicle mass or dimension limits – do not cause the vehicle to exceed mass limits – comply with the load restraint standard – are placed and secured in a way so they do not become unstable, move or fall off the vehicle • Provide reliable weight information to drivers prior to the journey • Ensure load documentation is accurate • Ensure goods packed in a freight container do not cause the container’s gross weight or safety approval rating to be exceeded. • Observe, Record and Report any vehicle roadworthy concerns to appropriate supply chain partners. • Ensure goods are able to be appropriately restrained

CoR Party	Responsible For
Drivers	<p>Must ensure that:</p> <ul style="list-style-type: none"> • You adhere to heavy vehicle driver fatigue management requirements (regulated work and rest breaks, work diary); • Your vehicle and load do not exceed mass and dimension limits; • Your load is appropriately restrained; • You do not exceed the speed limit; and • You do not tamper with any equipment required to be fitted to the vehicle: • Your vehicle is roadworthy to the limits of the inspection.

CoR Party	Responsible For
Operators/Managers/Schedulers	<ul style="list-style-type: none"> • Ensure rosters and schedules do not require drivers to breach driving hours or speed limits • Assess whether a driver is fit for duty • Record driver activities, work and rest times • Ensure drivers do not work while impaired by fatigue or while in breach of their work or rest hours • Maintain vehicles and ensure properly functioning speed limiters are fitted • Ensure vehicles are not loaded to exceed mass or dimension limits and are appropriately restrained • Ensure drivers moving freight containers have a valid container weight declaration • Consult regularly with other parties in the supply chain to identify risks and issues that may contribute to breaches of the HVNL. • The vehicle is compliant with Vehicle Standards and is roadworthy.

6. DOCUMENTATION

6.1 General

Shipping documentation (or delivery dockets) must accompany all deliveries and include as a minimum a packing list itemising the contents of the consignment to enable a check of ordered versus delivered products. Depending on whether the product was sourced directly from overseas it may also contain waybills etc.

Arrow requires that all shipping documentation be securely attached to the outside of all packaged items in a weather-resistant and sealed envelope that is not obscured. It can be affixed to the goods if packing is not required. Where a windowed envelope is used, the delivery address must remain visible.

A second copy, together with any special instructions regarding preservation, storage or handling of contents must be sealed in a waterproof envelope and securely fastened to the outside of each shipping unit.

Freight containers must have delivery dockets and packing lists inside weather-resistant envelopes, attached to the internal wall of the container. All freight container movements must be accompanied by a Container Weight Declaration (CWD) that is compliant with the requirements of the HVNL.

Where packing is required, duplicate copies of shipping documentation and delivery dockets

should also be placed inside the packaging in the event the external documents are misplaced. Each purchase order must be supported by an individual delivery docket.

6.2 Delivery Docket

The following information must be shown on the delivery docket for each package:

- Purchase order number;
- “Ship to” address;
- Contact person;
- Type of package (for example, box, bundle or unit of measure) – do not use terms such as ‘miscellaneous’, ‘one lot’, and ‘assembly’ as they obscure the exact quantity of goods shipped;
- A full description, the quantity and exact contents of each package;
- Weight (kg) and Dimensions: length x width x height (metric);
- Arrow and supplier material/part number;
- dangerous goods classification (if applicable); and
- SDS paperwork (if applicable).

If a unit of equipment has to be shipped in more than one package, then the documents for the equipment must be forwarded with the first package and must indicate the number of packages to be expected (e.g. 1 of 5, 2 of 5 etc).

6.3 Dangerous Goods

The consignor is responsible for the completion of all documentation relevant to dangerous goods, and it is the manufacturer & importer’s duty to label dangerous goods.

All Dangerous Goods shall be identified by correct shipping name, DG Class, subsidiary risk, packing group (if applicable), UN number and Hazchem code as per the requirements of the applicable Code or Regulation.

Material Safety Data Sheets (MSDS) must accompany each hazardous / dangerous product being delivered. These are available from the Manufacturer / Supplier.

The packaging, handling and transport requirements for the carriage of dangerous goods shall be in accordance with the most recent version of the applicable code as follows:

- Road, rail and air - Australian Dangerous Goods Code;
- Sea - International Maritime Dangerous Goods Code.

7. MARKING

7.1 General

The supplier must ensure that all packages dispatched as part of a Purchase Order are marked in

a clearly legible manner. To avoid confusion, markings and references from previous freight movements must, where practicable, be covered, made illegible or removed.

Items to be handled as parcel freight must be clearly marked, in English on at least one side. Items packaged in boxes or crates, palletised goods and unit items must be clearly marked, in English on two sides. Marking is to include the following (where applicable):

- Purchase order number (as quoted to be marked externally on all packages);
- “Ship To” address;
- Contact person (if applicable)
- Item description as per purchase order;
- Supplier name;
- Supplier material/part number;
- Arrow material/part number;
- Number of items per packaging unit;
- Package number (e.g. 1 of 4, 2 of 4 etc);
- Dimensions: length x width x height (metric);
- Whether cargo can be stacked.
- Tier limitations.
- Pipes need to be marked at both ends (in case a section is cut away).
- Weight (kg); and
- Dangerous goods classification (if applicable) and placarding.

7.2 Method

Shipping units that cannot be marked directly shall be marked as follows (in order of preference):

- Labels - Labels shall be printed on durable, weather resistant material using waterproof ink. Labels shall be affixed to the shipping unit by waterproof glue.
- Placards - Placards shall be constructed of exterior grade timber of minimum thickness of 6mm or galvanised sheet metal, of a minimum thickness of 0.5mm. Placards shall be securely attached with stainless steel or other non-corrosive fasteners. If wire is used for affixing, a minimum of two (2) wires shall be used. Minimum acceptable wire diameter shall be 1.5mm.

Where items are above 1.5m high, markings must be in a position so as to permit visibility to forklift operators.

The marking shall be durable, waterproof, fade resistant and able to withstand prolonged storage in bright sunlight and harsh conditions. The colour shall be in sharp contrast to the background on which it is marked.

Any tags used shall be non-rusting or durable plastic to avoid wear and tear.

7.3 Special Handling Instructions

Packages must be conspicuously marked with any special handling instructions in English and with the appropriate international standard symbols to prevent possible damage.

Special instructions may include:

- Handle with Care,
- Fragile,
- Heavy,
- Right Side Up,
- Keep Dry,
- Cool Storage,
- Use No Hook,

Pictorial markings must comply with AS 2852 and be used to fully convey information regarding specific handling requirements.

Product that has a short shelf life and/or is subject to temperature control must be identified, and any shelf life or preservation requirements must be clearly indicated on or with each applicable item.

Lifting and slinging requirements must be clearly marked on goods and when required, due to length or unbalanced weight, crates or boxes shall have a centre of gravity indicated by the relevant symbol and the words "CENTRE OF GRAVITY" shall appear in letters at least 24mm high, adjacent to stripes. Proper placement of the "SLING HERE" symbol shall better insure correct use of lifting gear.

In all cases for any equipment or material requiring special storage, care in handling, or other special warehousing requirements, the Supplier is to furnish a description of the special requirements and related Supplier recommendations with the delivery of the specific item.

8. PACKING

8.1 General

Prior to packing, the supplier must ensure that all items for the Purchase Order are prepared, protected and marked in accordance with the following clauses.

- All packaging together with packing and protective materials shall be new, maintain its integrity and perform its intended function whilst being transported, handled and stored. In particular it should be capable of withstanding road transport over long distances and rough terrain. Packaging must also be suitable for multiple handling movements as freight can be unloaded and reloaded as it is consolidated and/or trans-shipped through regional or capital city depots. Any sign of damage on receipt may cause the consignment to be rejected, returned and replaced at the supplier or transporter expense.

- All packaging must be capable of being safely lifted on and off transport vehicles and being safely transported without rolling, tipping, sliding or spilling. Equipment and materials must be packed to ensure an even weight distribution within the package. Where this is not possible, particularly in the instance where a case or crate conceals the internal goods, the supplier must ensure that the centre of gravity and hoisting position are marked on two sides to ensure loading, unloading and handling can be done in a safe manner. For example, top-heavy containers or unbalanced loads must be clearly marked with centre of gravity including sling marks to facilitate safe loading, unloading and handling.
- All packaging materials should be environmentally friendly. Substitutes for polystyrene foam and plastic beads are to be used whenever possible.
- Packaging methods used must ensure safe delivery of the goods to the site. They must take into account the value of the item and the weight and size limits of cargo that can be transported to the Site.
- Packaging methods must allow the goods to be appropriately restrained on a vehicle.
- Packaging methods must meet the Loading Performance Standards documented in the Load Restraint Guide 2018.
- Shrink wrap is designed to stabilize the load, not to secure it to the pallet. Strapping or banding should be used in conjunction with shrink wrap to secure the load to the pallet. Shrink wrapping of heavy items as a means of consolidation onto a pallet is not considered to be suitable, and is not considered a hard method of restraint. Where shrink wrapping is used, the consignor/packer must use clear wrapping to allow visibility of contents and restraint methods when checking the goods upon receipt.
- Consignors must also take into consideration wind load forces during transport and the impact it will have on the freight and the freight packaging.
- No employee or contractor may be called on or permitted to manually handle an item likely to affect his or her health or safety. After a risk assessment and/ or SLAM, any package deemed unable to be handled by one person must be packaged suitable for either crane or forklift handling. If safe forklift handling is not possible, approved lifting and slinging lugs must be fitted by the supplier to facilitate safe crane handling.
- Consignments must be packaged to provide for maximum use of mechanical handling. Items that require mechanical lifting must have forklift access points (including forklift accessories), approved lifting lugs or suitable access for slings. For standard forklifts and Telehandlers, access points must be sufficient to allow the use of tines that are 210mm wide x 80mm high.
- For International shipments, all timber packaging and dunnage must be ISPM15 treated and stamped.

8.2 Packaging Methods

8.2.1 Cases, Boxes and Crates

All boxes and crates must be fitted with skids suitable for lifting by forklifts. The design of timber boxes must take into consideration the method of lifting. Where slings are to be used on crates,

particularly those weighing over 300kg, the top edges must be sufficiently reinforced to withstand loads applied by slinging.

Where timber is used, either internally and externally, it must be free of bark and insect infestation. Plastic or steel cases, boxes or crates are a preferred option.

Contents must, for purposes of handling and transportation, fit snugly inside the case and must be restrained from movement by blocking the items. Where metal or prepared paintwork may come into contact with the case timbers, it must be protected from abrasion by felt pads, foam rubber, plastic or cardboard.

Cases or cages must be used for delivery of bulk items and, if used, must be firmly secured on pallets. If the cases or cages are reusable, then arrangements must be made for their return to the supplier prior to subsequent order placements.

8.2.2 Timber Crates/Cases

All timber crates and cases must be of close-jointed, solid timber, preferably hardwood and suitable to adequately support the item. All timber crates and cases must have an SWL exceeding the weight of the item. Cases must be fully closed (for example, not partially open-topped construction) and the base of all cases and crates must be constructed for lifting by forklift, unless otherwise approved by the Arrow Company Representative.

Timber cases, boxes and crates must be secured with straps capable of bearing the unrestrained weight of the item. Straps must be secured in a manner consistent with the strapping material type. For example, metal straps must utilise crimped steel seal or nylon and propylene straps must be secured using either crimping or appropriate heat technology.

Wherever possible, screws, not nails, should be used when sealing timber crates/cases.

8.2.3 Cages

Where the number of items in a cage is insufficient to effectively block the items from moving, then the items must either be restrained to the base of cage by way of straps or by blocking, using timber or similar to prevent movement.

8.2.4 Frames

If the item to be transported requires a frame the vendor is to liaise with the Arrow Contracts and Procurement representative to confirm the type and specifications of the frame. The specifications and associated costs of the frame are to be reflected on the purchase order.

Purpose-built transport frames must be designed, checked and manufactured to Australian Standard AS4991 (Lifting Devices). They must also incorporate load restraints and lashing points as described in the National Transport Commission publication "Load Restraint Guide" 2018 edition. Spreader beams or transport frames incorporating lifting beams must also conform to AS1418 (Cranes Hoists & Winches).

Wherever possible manufacture and structural integrity of all transport frames must conform to AS3990 (Mechanical Steelwork) including non-destructive testing of lifting lugs.

Engineer certification documentation must be retained and be able to be produced on request.

If frames appear not to have been manufactured to the above standards, or there is doubt regarding the adequacy of a transport frame, the Arrow-preferred 3PL is empowered to act on behalf of Arrow and request a formal inspection and verification certificate.

8.2.5 Modification to Frames

Modifications are not to be carried out to frames unless it is approved by an authorised and qualified Arrow Engineering representative, or for Original Equipment Manufacturers (OEM) frames, by the OEM themselves. Relevant change management processes are to be followed.

8.2.6 Single Use Frames

If the supplier chooses to use a single-use frame, it must be built to a standard that will safely transport goods from point of origin to final destination. If a suitable single-use frame is not available, a multiple-use frame must be used. These frames must conform to the Australian and New Zealand Standards described above.

8.2.7 Multiple Use Frames

Whenever an item is placed in a frame, an independent inspection is to be carried out by a Supervisor, or person deemed to be competent, to ensure that the item has been prepared correctly for transport and that the item is properly secured to the frame.

Suppliers using frames intended for multiple uses must maintain a Transport Frame Procedure that, as a minimum, should include the following information:

- design standard;
- frame register;
- engineering calculations;
- engineering drawings; and
- tag system (for repair agency).

All transport frames must be engineered and fit for purpose. Inspection regimes for frame integrity must be implemented by the Supplier and should be auditable by Arrow.

Freight retained in supporting frames should be secured using washers combined with an appropriate minimum torque on the stud or nut to retain the item in the frame.

Nylok nuts, castellated nuts or similar must be used to ensure the retaining nuts do not vibrate loose in transit.

Lifting and tie-down points must be clearly indicated on the frame.

Frames owned by Arrow are to be inspected regularly and their fit-for-purpose condition, or otherwise, noted. The serial number must be noted in the quotation response. If a frame is received that does not have a serial number, contact the person nominated on the purchase order to arrange the issuing of a number.

8.3 Equipment Protection

Equipment must be suitably protected and packaged to prevent damage or corrosion during

transport and be protected from climatic damage during storage on-Site. If there are specific packaging requirements these are to be placed on the Purchase Order. In the event of no specific requirements the following is to apply:

- Where applicable all machined surfaces, bearings and electrical components must be protected against the ingress of salt air, water vapour, seawater, moisture and other corrosive and harmful substances.
- Where applicable all bearings must be protected against “brinelling” by suitable locking of shafts or false bearings used to relieve bearings of the load during transportation.
- All doors on equipment must be locked, the keys labelled and securely taped to the door handles. Keys must not be left in locks during transport.
- All painted items must be packed and handled in such a way that minimises damage to the surface.
- All openings must be sealed. Engines, drivelines, pumps, valves and similar should be plugged or capped and filters replaced where appropriate prior to dispatch. This is to avoid wind sucking fluid from items while on the back of trucks.
- Equipment such as electrical switchboards and panels, office machines and precision instruments must be packed within a moisture/vapour-proof barrier with a suitable desiccant to absorb moisture within the package. The packaging of this type of equipment and the application of desiccants must comply with AS2400.18 – SAA Packaging code-Part18-Use of desiccants in packaging.
- Openings in electric motors, generators and other electrical equipment must be sealed with waterproof tape or in some equally effective manner.
- Where possible, goods containing oils or lubricants such as gearboxes, hydraulic components or transmissions, should be drained before transport, and carry a tag stating "NO OIL".
- Where goods containing oils or lubricants such as gearboxes, hydraulic components or transmissions are being dispatched for repair and have leaking seals or can be expected to leak oil during transport, these must be drained before transport and carry a tag stating "NO OIL".
- Gearboxes, exciters, suitable hydraulic components and transmissions must contain in quantities sufficient to ensure effectiveness, a corrosion inhibitor for internal corrosion protection for a shelf life of at least 6 months. A tag nominating the presence of corrosion inhibitor and the date it was applied must be clearly displayed. Ensure all vents breathers and openings are plugged. Breathers to be attached to the gearbox in a clean plastic bag with a tag stipulating “attach to gearbox after installation”. This is to due to the corrosion inhibitor being effective only in a closed area.
- Exposed machined surfaces must be coated with a corrosion inhibitor. Hydraulic and pneumatic cylinder rods must be in the fully retracted position.
- Goods contaminated with grease, waste oil, solid lubricants or other process contaminants and that are being consigned from sites must be cleaned before transport to prevent environmental damage during the entire supply chain.

8.4 Fragile/Sensitive Components

All instruments, protection relays or other fragile parts must be placed in sealed plastic bags and packed in plastic cushioning, or some equally effective shock absorbent material, in timber boxes. Polystyrene foam alternatives are to be used where available. All fragile components must be securely supported to prevent damage in transit and must be packed in separate crates and not with heavy items.

8.5 Contents

To minimise the risk of theft or loss, small packages and those items considered attractive must be packaged separately or consolidated into larger containers and NOT packed inside equipment such as pumps, electrical cubicles or other items.

8.6 Bundling

Each bundle must be treated as an individual package and marked accordingly.

All items shall be segregated to length and size and bundles into units not to exceed 1000kg using minimum 3cm steel straps that may be spaced up to 120cm apart (where practical, ends are to be cross braced). The size and weight of the bundles may be increased for practical purposes.

A minimum of 2 rubbing strips/skids (minimum height 7.5cm / 3 inches) must be positioned so that a forklift truck and/or slings can handle the bundle without damage to goods. Additional rubbing strips/skids must be spaced equally, as necessary, to distribute the load and prevent sagging.

8.7 Pipe Fittings

All malleable and steel pipe fittings must be boxed or triple stacked. Cast iron fittings must be boxed. All flange faces are to be protected with bolt-on or snap-on covers. Tape is not acceptable on sealing surfaces.

8.8 Kits

Items that are part of a kit must be clearly marked and consolidated into one packing unit (for example, a 500-hour filter kit that comprises 7 separate filters must include all filters for the kit). In the event numerous sets of the same kit are purchased, each kit must be separately packed.

- Suppliers are not to pack different Supply Contract Numbers into a common shipping unit. Only items for the same Supply Contract can be packed into a common shipping unit. However, different purchase orders from the same Supply Contract Number should be packaged together to reduce consignment volume.
- Where multiple items are packaged in the one shipping unit (e.g. carton, crate or skid), heavy items must be packed at the bottom. In all instances (with the exception of various sized pipe), items shall be nested or packed to reduce volume as much as possible.
- Heavy or large/awkward items that do not fit in a case or crate must be strapped with steel strapping to a skid or pallet. The skid or pallet must be strong enough to support the weight of the item and multiple handling movements.

- Items in a package must be prevented from damaging each other, and finished or coated surfaces must be protected from any rubbing or abrasion. Loose or moving parts within an item may require temporary securing while in transit. Such devices must not abrade or otherwise damage the material, and items must bear clear written warnings to remove all such securing devices before installation or start-up.
- Consignments of multiple packages wherever possible must be either placed in a secure cage or palletised for ease of handling.

All kits must have a BOM packing list that lists and describes each item that comprises the kit. This packing list must be inside the kit box.

If the kit size does not permit consolidation into one packing unit, each item must be clearly marked as forming part of a kit.

8.9 Palletised Items

Pallets must be non-returnable hardwood, suitable to adequately support the item and with an SWL exceeding the weight of the item. Pallets must be (at least) two-way, flush sided and under railed.

European and American style pallets which are suitable for use in containers may not be robust enough to withstand Australian road conditions. These pallets should be replaced with Australian standard hardwood pallets that meet the Australian Standard AS 4068.

Items that require mechanical lifting during handling must be palletised. Pallets are to be used for items that:

- cannot be handled manually by one person or designed to be lifted by a forklift;
- have dimensions that allow stable loading on the pallet, and
- do not exert excessive point loads on the pallet.
- Palletised items must be secure on the pallet to prevent movement.
- Palletised items must be restrained in compliance with the Loading Performance Standards documented in the Load Restraint Guide 2018.
- Cylindrical items and items likely to roll or fall must be chocked and strapped with steel straps capable of bearing the unrestrained weight of the item to the pallet. Chocks should be fixed directly onto the pallet.
- Strapping is to be secured to the bearers; not the boards. The strapping must ensure complete security and no chance of items falling off the pallet.
- Loads must not overhang the forklift entry points of the pallet. Individual contents of each pallet must be clearly marked.

Where timber is used, either internally and externally, it must be free of bark and insect infestation.

Where possible, steel pallets and skids should be used for packaging large and heavy items.

Acceptable Pallet**Unacceptable Pallet****8.10 Skids**

Skids are small pallets without under rails and are usually made of wood.

Skids have very limited application being suitable only for light and low profile items. Skids are typically not weight rated and without this certification there is a heightened risk in handling.

Some items will be unloaded on uneven ground which may increase the chance of the item becoming unstable during handling. It is essential that each individual load be assessed to ensure compliance.

8.11 Large Equipment

Large equipment requiring disassembly before transport must be clearly match-marked prior to disassembly to facilitate efficient reassembly on Site.

Loose accessories in each package must be identified individually, by a metal or weather-resistant label indicating the purchase order number, tag number, name of the main equipment, and names of accessories, quantity and its position number on assembly drawings.

8.12 Pipe, Casing and Pup Joints

The standard casing lengths of 6m, 9m and 12m are to be delivered as individual units (not bundled). Each layer of casing is to be separated by rubber-lined hardwood dunnage (preferably scalloped).

Shorter casing lengths, known as pup joints (1m, 2m and 3m) must be delivered on purpose-built steel skids or stillage cages and stacked horizontally to a maximum height of 1.5m. The pup joints are to be sufficiently strapped to the skids so as to prevent movement during loading, unloading and transport.

All pipe/casing ends are to be sealed with plastic plugs or end caps. Tape covering is not acceptable. End protectors are required for all bevelled-end line pipes.

Coated pipe shall be provided with maximum protection. Such pipe shall be lifted by slinging only, and shall be marked "DO NOT USE HOOKS."

8.13 Tubing

Pipe/casing less than 4 inches in diameter (10cm) is known as tubing. These smaller diameter

products shall be bundled by strapping cleats of 6 x 12cm lumber above and below the load. Difference sizes of tubing shall not be nested without the Purchaser's approval.

8.14 Pipe Fittings

Pipe fittings shall be sorted according to type and shall be packaged in timber boxes or crates. Terminating flanges shall be protected by means of the placement of plastic flange covers or the bolting of timber/metal blanks to the flange. Tape is not acceptable on sealing surfaces. Threaded connections shall be capped or plugged.

The trailers used to transport lengths of pipe, casing or tubing must have the following as a minimum:

- Full steel engineer designed and built headboard;
- Rubber lined hardwood dunnage (preferably scalloped); and
- Rubber lined steel stanchions

8.15 Intermediate Bulk Containers (IBCs)

IBCs must only be consigned near full or near empty.

9. TERMS AND DEFINITIONS

Term	Definition
Consignor	The consignor, in a contract of carriage, is the person sending a shipment to be delivered whether by land, sea or air. This includes the Central Procurement Team
Corrosion preventive	Substance which, by intimate contact with metal surfaces, protects them from corrosion by acting as an impervious barrier by modification of the metal surface, for example. By absorption or by superficial oxide formation.
Dangerous Goods	Goods are dangerous goods if they are defined under the ADG Code as: (a) dangerous goods; or (b) goods too dangerous to be transported.
Hazardous Materials	Chemicals that present a health risk (acute or chronic)
Pallet - two-way	A pallet with bearers that permit the entry of tines from two opposite directions only.
Requisitioner	Arrow Energy staff requesting goods and materials to be purchased.
Safe Working Load (SWL)	Is the breaking load of a component divided by an appropriate factor of safety giving a "safe" load that can be carried or lifted
Supplier	A person or business that supplies goods or services
Working Load Limit (WLL)	The maximum load that an item can lift in a particular configuration or application.

10. ABBREVIATIONS AND ACRONYMS

Abbreviation	Definition
Arrow	Arrow Energy Pty Ltd
CMS	Contract Management System
CPL	Contracts, Procurement and Logistics
CPT	Central Purchasing Team
CWD	Container Weight Declaration
DG	Dangerous Goods
GHS	Globally Harmonised System of Classification and Labelling of Chemicals
HM	Hazardous Materials
HSE	Health, Safety and Environment
SDS	Safety Data Sheet (previously called the Material Safety Data Sheet or MSDS)
SLAM	STOP LOOK ASSESS MANAGE

11. APPENDIX 1 – Examples



Drums are not secured to the pallet



Drums properly secured to pallet under bearers

APPENDIX 1 – Examples Continued



Freight wrapped in black shrink wrap. Unable to determine if freight is restrained inside.

12. Document Administration

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Revision	Revision Date	Revision Summary	Author
1.0	23 Mar 2012	Original Document	Chris Bregan
2.0	31 Aug 2017	Updated to reflect current practice	Paul Cook
3.0	12 July 2018	Updated to reflect COR changes 2018	Paul Cook/Richard Jourdain
3.1	1 May 2020	Document Administration and new revision No content changed	Cathy Bakker/Richard Jourdain
4.0	15 March 2020	Issued for Use.	Cathy Bakker/Richard Jourdain

Related documents

Document Number	Document title
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Acceptance and Release

Author

Position	Signature	Date
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CPL – Manager Engineering & Construction	Jeffrey Zelensky	15/05/2020
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