1 PURPOSE

The purpose of this guide is to outline the minimum standard to package material to and from GFG Alliance to ensure the safe handling and basic preservation requirements to store materials critical to our continued quest for Goal Zero

2 SCOPE

Freight destined for site typically travel significant distances and pass through several points of handling before reaching the destination. What may be considered sufficient preparation for a metro or short distance will not always be suffice for freight dispatched to Whyalla Mining and Steelworks due to distance, road conditions and seasonal weather.

Freight must be packaged and presented in such a manner that it:

- can withstand land and sea 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 handling, and
- minimises the risk of damage to freight, other road users and the general public.
- Can be stored in areas subject to the elements (UV, Water, Contamination)

This Guideline has two (2) critical areas of focus:

- Basic Packaging Integrity
- Basic Preservation Requirements

The Guideline is designed to:

Protect our people, environment, suppliers and community from the risk of accidents and incidents whilst distributing material

Ensure all reasonable steps have been taken to protect our Inventories whilst in transit and storage.

Ensure GFG Alliance and our suppliers comply with the Laws governing safe packaging and transportation of material.

Provide our vendors and general freight companies a general outline of the minimum standards we expect freight and material coming into our business are to meet.

3 REFERENCES, DEFINITIONS AND ACRONYMS

The documents listed below are referenced in this document or are related to it.

Document Number	Document Title
	ADG Code – Current Volume

The definitions used in this document are defined below:

Definition	Description
Anti-Tip Device	the design of a pallet, skid or frame that prevents the load from falling off the forklift tines should the load become unbalanced before or during loading and unloading operations.
Chain of Responsibility	means all persons in the transport chain who can be held responsible for breaches of the Law and who are legally liable.
Dangerous Goods	substances or articles with hazardous properties that pose a risk to people, property or the environment due to their chemical or physical properties.
Directional Form of Restraint	restraint of a package where the securing methods are not in a uniform plane and have tie-down in at least two different directions (i.e. north – south, east – west).
Emergency Procedure Guide	a document or card which provides information on the correct procedures to be followed when there is an emergency involving the transport of Dangerous Goods.
Indirect Load Restraint	a restraint method that relies on friction between the load and the vehicle, such as rubber coated truck trays and tie down equipment that press the load more firmly onto the loading surface.
Law	legislation including Australian Standards, regulations, by-laws, orders, awards and proclamations with which a Party is legally required to comply; common law and equity (if applicable); and authority requirements, guidelines, consents, certificates, licences, permits and approvals (including conditions in respect of those consents, certificates, licences, permits and approvals) with which a party is legally required to comply.
Packaging Integrity	is the means by which goods are restrained and contained to prevent damage and movement during transport and storage
Site	any GFG Alliance operation or office including but not limited to a mine site.
Site Standards and Procedures	the standards, specifications, policies, procedures and matters listed in GFG Alliance's Contractor Management System or provided to the contractor, and any updates or any other guidelines, rules or requirements that are applicable.
Stored Energy	contained in items, such as pressure vessels, cylinders, gas charged suspension struts, brake actuators, springs under tension and suspended counterweights, as part of their operating process.
Wide Load	any load that exceeds regulatory dimensions, or that requires an accompanying escort, pilot vehicle or police escort to transport the consignment.
Goal Zero	GFG Alliance initiative to achieve zero harm to our employees, contractors, suppliers, members of the public, the environment, and the communities in which we operate.

The abbreviations and acronyms used in this document are defined below:

Abbreviation	Description
MHE	Materials Handling Equipment

4 SAFETY, ENVIRONMENTAL, QUALITY ANALYSIS

4.1 Safety Risk Analysis – N/A

4.2 Environmental Risks Analysis – N/A

4.3 Quality Risks Analysis – N/A

5 PROCEDURE

5.1 Packaging Integrity

Packaging Integrity shall be adequate to prevent uncontrolled load shift during transportation, loading and unloading activities.

Packaging shall be strong enough to withstand load restraint forces, such as emergency braking. If uncertain, a risk assessment shall be undertaken and documented confirming appropriateness for safe transport.

There shall be a minimum of two Directional Forms of Restraint to secure all packages unless this is not adequate restraint to prevent uncontrolled load shift. It is the responsibility of the consignor to ensure all loads satisfy Packaging Integrity.

All goods with Stored Energy must also be clearly identified and marked accordingly with full testing, venting / draining, relief or restraining instructions firmly attached to the item in a weatherproof container.

All goods being delivered that have components which are designed to move or be opened must have adequate packaging to preventing movement or removal of items during transport.

All goods dispatched from Site that contain Stored Energy as part of their operating process (such as pressure vessels, cylinders, gas charged suspension struts / components, brake accumulators, springs under tension, suspended counterweights and other like items) must be relieved, drained, vented and suitably restrained preferably in a purpose-built frame before transport.

5.2 General Packaging Requirements

All packaging methods shall be in a serviceable condition and comply with the Law.

Equipment and materials shall be packed to ensure an even weight distribution. Where this is not possible, particularly in the instance where a case or crate conceals the goods, the consignor shall ensure the centre of gravity and hoisting position are clearly marked on two sides to ensure safe handling, especially for any top heavy or unbalanced loads. These loads are considered high risk and require Anti-Tip Devices as part of the packaging, such as an under rail.

No small packages or components shall be packed inside major components (electrical cubicles, pumps, machine cabins) but shall be separately packaged for transport.

All items that are contaminated must be thoroughly cleaned before packaging for transport to prevent environmental or physical damage throughout the transport chain.

All goods and equipment containing oils or lubricants such as gearboxes, hydraulic components, transmissions with the possibility of leaking during transport shall be appropriately tagged, drained of excess fluids, plugged and, if required, bunded.

All packaging is to be clearly marked for any special handling. Tyne Position, Fragile, Heavy, Keep Dry as an example.

At all times Eco Friendly or Re-Use packaging is to be used.

Packaging must be applied in a manner whereby it suits its purpose however is not in excess as to create environmental hazards to dispose.

All bulk products and liquids must be transported by accredited carriers.

6 PACKAGING METHODS

6.1 Equipment Protection

All equipment shall be suitably packaged and protected to prevent leakage, damage, corrosion and movement during transport and be protected from climatic damage during transport and storage.

6.2 Pallets

Pallets and skids must be fit for purpose, relevant to the weight and dimensions of each load.

Loads must not hang down and obscure the forklift entry points of pallets and skids.

Pallets and skids must be serviceable with no damage.

High risk, uneven and unbalanced loads require an Anti-Tip Device and a centre point marking

Hardwood skids and bearers are to be used for those items that weigh more than 1.1 ton.

Leased pallets are not to be used to supply product.

All pallets must have a bottom retaining board to prevent rolling from MHE tynes.

6.3 Skids, Cases, Boxes and Crates

All large cases, boxes and crates must be suitable for lifting with forklifts.

Bottom bearers must be fitted and capable of carrying the weight of the contents and be in increments of 500mm to prevent rolling from MHE tynes.

Steel Strapping is to secure the external sheeting on the inside of each bearer.

If timber is used, either internally or externally, it must be free from contamination, bark, and insect infestation.

6.4 Cages and Containers

Only goods or packages less than 20 Kg shall be placed into cages. Any goods or packages weighing 20 Kg or more shall be securely placed on a pallet or pallet skid. This is applicable to internal deliveries and returns.

All cages must be suitable for lifting with forklifts and have a SWL clearly marked on them.

Prior to shipping, the consignor must provide a packing list for all large containers (e.g. shipping containers) detailing contents and appropriate sizes and weights of the contents.

All steel cages require an Anti-Tip Device.

6.5 Sacks, Bags and Plastic Wraps

Where the ingress of dust, dirt or moisture is possible, all sacks and bags must be suitably lined on the inside to prevent contamination of the contents.

All plastic coverings must be clear to allow visual inspection of goods during the transport chain.

Plastic shrink / stretch wrapping of goods is not considered adequate restraint and is only to be used as a means of protection against intrusion of dust or moisture.

6.6 Frames

The frame owner must ensure purpose-built transport frames designed and manufactured to suitable standards in accordance with the Law.

Frames are not to be modified without approval from the frame owner and must remain with the equipment at all times.

All frames must have the appropriate certified lift rating capability and tagged lifting points if built in.

6.7 Drums, Bulk Products and Liquids

If multiple drums are transported, they must be horizontally strapped around the middle with steel or similar approved non-stretch strapping. They must have angled corner protectors positioned on the top of the drums and be strapped with steel or similar approved non-stretch strapping.

6.8 Sheet Items

Sheet items, such as steel plate and mesh, must be able to be lifted by a forklift.

Sheet items must have dimensions that allow stable loading / unloading and do not exert excessive point loads for the pallet.

Bearers used must cover the width of the truck and placed in increments to allow a maximum of 4 ton lift.

Strapping must be placed where the MHE tynes will not damage the strap during loading or unloading activity.

6.9 Large Individual Items

Large individual items requiring specialised handling must be able to be lifted by a forklift or crane. Lift plans or any other information regarding their arrival is to be forwarded to the receiver prior to despatch.

6.10 Gas Cylinders

Gas cylinders must be securely restrained and segregated within a gas stillage and transported in an upright position or for small cylinders such as calibration gas a purpose-built transit box is acceptable.

6.11 Bulk Product Bags

All powdered, loose bulk must be supplied in bags that as a minimum have 4 individual stitched lifting ears or 4 that link into one. Chain/ Overlock stitching is preferred as is sift proofing and other handling enhancements such as baffles and perimeter bands where the product contained will be safer to store and handle if present.

All bags must be supplied with pull sting operated fill /discharge spout top and bottom.

The bag must have the name and weight of the product contained inside clearly marked and any other safety or handling information as well the supplier's name.

Bags being supplied on pallets must be supplied with a core flute/cardboard sheet between the bag and the pallet.

The bag fabric needs to provide added protection or lining if the product inside is susceptible to short term exposure to moisture. Likewise manufactured with a UV inhibitor to protect it during outdoor storage.

6.12 Pipes and Spools and valves

All pipes and elongated spools must be strapped and or framed to limit or eliminate the possibility of rolling.

Valves are to come complete with flange covers / seals.

7 BASIC PRESERVATION REQUIREMENTS

Different spares maybe subject to item specific storage and preservation requirements that will be listed in a scope of work or standard text. These will override or compliment the basic requirements outlined in this guide.

7.1 Electric Motors

All motors must have the control boxes sealed using a silicone sealant that will not allow the ingress of moisture or dust.
Shafts, couplings and gears must be wrapped in Denso tape. All Denso tape joints must be rubbed in to adequately seal joints.

Clamps shall be applied to the shaft as to limit turning damage in transit.

7.2 Circuit Boards and Electronics

Electrical Components and Circuit Boards must be internally cryovac sealed into a UV resistant / antistatic bag. Must be supplied in foam encased packaging.

7.3 Gearboxes

Gearboxes must be treated with internal rust inhibitors and tagged with clear instructions that the inhibitor is flushed or drained prior to installation and what it is to be replaced with.

They must have desiccant breathers fitted. Input & Output shafts, couplings and gears must be wrapped in Denso tape. All Denso tape joints must be rubbed in to adequately seal joints.

7.4 Engineered / Machined Surfaces

All engineered components manufactured from ferrous metals are required to be delivered prepared for Long Term storage. All machined surfaces are to have a Solid Film Corrosion Inhibitor applied (Suitable Product Examples below).
The product must protect metal parts from the damaging effects of moisture, air, detergents & other contaminants and is a water-displacing rust inhibitor that leaves temporary dry waxy protective film on metal surfaces.

Solid Film Corrosion Inhibitor (Suitable Product Examples)
Rust Veto RV342
Rust Ban 326
Tectyl 506
Ensis DW6055

Product Data Sheets and Safety Data Sheets are required to be provided if products other than those listed above are being used.

7.5 All Assemblies

All open / exposed bearings and couplings etc. are required to be wrapped with Denso Tape. All Denso tape joints must be rubbed in to adequately seal joints.

7.6 Mechanical Seals

Must be supplied in foam encased packaging clearly marked to do not open for inspection.

8 DOCUMENTATION AND LABELLING

8.1 General

Relevant documentation must be securely attached to the outside of all goods and placed in a weather resistant, sealed envelope in a non-obscured prominent place.

Shipping containers must have delivery dockets and packing lists attached to the inside wall of the container, in a weather resistant, sealed envelope, in a non-obscured prominent place.

Safety Data Sheets are to accompany the goods (if applicable).

Commercial Invoices, Bill of Lading, Packing list as well as any other fumigation certificates as a minimum must be sent to the GFG Purchasing Officer on the order and our nominated freight forwarder for all International orders.

Again, special handling instructions such as 'Fragile', 'Heavy Item', 'Top Heavy' and any other requirements must be marked on the packaging in a clearly visible location and with the appropriate international standard, if applicable, marked on the items.

GFG Site Delivery Details are:

Main Store

SIMEC/Liberty Primary Steel

Lot 1 Port Augusta Road

Whyalla 5600

8.2 Delivery Dockets

The following information must be displayed on the delivery docket for each item of goods, package or freight container:

- a delivery docket number that is unique and relevant to the consignor and consignment.
- consignor's details
- Site delivery details
- purchase order number; and
- A full description, quantity, and unit of measure.

If the items supplied against the purchase order require more than one package, then the documents must be attached to the first package and shall clearly indicate the number of packages sent for the consignment.

Any freight received without a compliant delivery docket may result in delays to payment.

Suppliers must generate delivery dockets a forward them to 3rd party suppliers to accompany the delivery if applicable.

Invoices are not to accompany the consignment. These are to be sent to the accounts payable email address accountspayable-au@gfgalliance.com once the consignment has reached the agreed delivery point outlined on the purchase order.

Invoices must represent the quantity and detail on the delivery docket of the goods despatched.

8.3 Consignment Note

The consignment note must include the following detail:

- consignor's details (including company name and phone number)
- Site delivery details
- purchase order number
- delivery docket number

- type of package (e.g. roll, bundle, box);
- weight (kg) and dimensions (metric measurement) of each item; and
- Freight requirement (e.g. general, dangerous)

8.4 Labelling

All consignments must be clearly individually labelled with a consignment sticker or written detailing the following:

- purchase order number
- Site delivery details
- consignor's details
- item, case, box, package number (e.g. 1 of 4)
- Dangerous Goods classification and placarding (if applicable)
- Special instructions sticker (if applicable).

All goods or packages dispatched as part of a purchase order are to be marked in English and in a clear legible manner.

All markings and references from previous freight movements shall be covered, painted over or removed from all goods and packaging.

All markings shall be durable, waterproof, fade and UV resistant. All colours used in the marking shall be in sharp contrast to the background on which it is used.

All tags used shall be of non-rusting, durable, fade resistance product, able to be clearly marked and firmly attached to the item with a flexible, non-jagged, durable product.

Goods for individual purchase orders can be consolidated but shall be clearly marked and divisible.

8.5 Dangerous Goods, Hazardous Materials and Emergency Procedure Guide

All Dangerous Goods and Hazardous Materials must be documented and consigned on a Dangerous Goods consignment note.

All packaging / storage vessels must be labelled and placarded in accordance with the Australian Dangerous Goods code.

Emergency Procedure Guides and Material Safety Data Sheets must accompany all dangerous goods.

The Emergency Procedure Guides must be supplied to the driver as per the requirements of the Law.

9 TRANSPORT SAFETY

9.1 Load Restraint and Inspection of Restraint Equipment

Both Direct Load Restraint and Indirect Load Restraint must be used when transporting freight for GFG Alliance.

Steel items must not be loaded directly onto a steel tray due to the risk of sliding. Restraint of steel items shall be with the use of a rubber or alternative suitable packaging material.

Load binder ratchet tie down devices such as the 'Austbinder', 'Ev-Cam' or 'GrabIQ' and similar equipment of the correct specification to securely restrain the load are the preferred chain tension devises.

Over-centre lever style load binder (a dog) with an extension (cheater bar) **shall not** be used to tension chains on a GFG site. If freight arrives using one, the load is to be quarantined and a risk assessment completed for the safe

All freight carriers shall ensure load restraint equipment used complies with the Law and must have a documented inspection process for conducting periodic inspections of load restraint equipment. All inspections and pre-start checks must be documented.

9.2 Vehicle and Associated Equipment Standards

Vehicles entering site must comply with Site Standards and Procedures.

All vehicles and restraint equipment used in the transport of all GFG Alliance consignments must comply with all relevant Laws.

A tarpaulin or other suitable material must be used where applicable to provide a barrier to the outside elements. In doing so, it can act to further contain the load and help to prevent the loss of any goods during transit. Tarpaulins are not classed as a method of restraint to secure a load.

10 QUALITY ASSURANCE DOCUMENTATION

For all quality accredited supplier's, copies of inspection certificates for all manufactured & engineered spares detailing the inspection criteria are to be provided to the purchasing officer on the purchase order in soft copy with a hard copy to accompany the goods.

Parts purchased for registered plant and equipment such as pressure valves the certification certificate must be provided to the purchasing officer on the purchase order in soft copy with a hard copy to accompany the goods.

An original is to be kept by the vendor.

11 ATTACHMENTS

List of attachments.

Attachment 1: - Packaging and Labelling Examples

Packaging and Labelling Examples

Dangerous Goods example

Pallet Standard

Heavy Duty (Storage)

Dimension 1165mm X 1165mm X 150mm

Weight Capacity 2000kg

Top Boards – 7 (25mmX100mm X 1165mm)

Bottom Boards - 3 (25mmX100mm X 1165mm)

Bearers 3 (27mmX100mm X 1100mm)

Light Medium (Transport)

Dimension 1100mm X 1100mm X 140mm

Weight Capacity 1000kg

Top Boards – 7 (19mmX100mm X 1100mm)

Bottom Boards - 3 (19mmX100mm X 1100mm)

Bearers - 3 (27mmX100mm X 1100mm)

Bag Standard

With bottom Spout (Lime)