ASELSAN
Packing and Packaging Manual

This document is Annex-D to AS-70-08-04 Goods/Services and Invoice Acceptance Transactions Tracker.

aselsan

Records of Revision

No.	Revision	Date / Revision Date	Revision Decision	* A R D	Place of Revision	Explanation
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*) **A**: Added, C: Changed, D: Deleted

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1. Purpose and Scope

This document has been prepared to determine the packing and marking methods of ASELSAN materials and products and to define the application method.

This document has been prepared for the use of ASELSAN departments and suppliers (subcontractors, manufacturers, vendors, distributors, dealers, service providers).

At the same time, the purpose of this document is to focus all stakeholders involved in the life cycle of products on the use of reusable and recyclable environmentally friendly packing materials and related methods; to adopt resource efficiency, sustainability and environmental values from end to end; and to standardize environmentally friendly packing materials and methods.

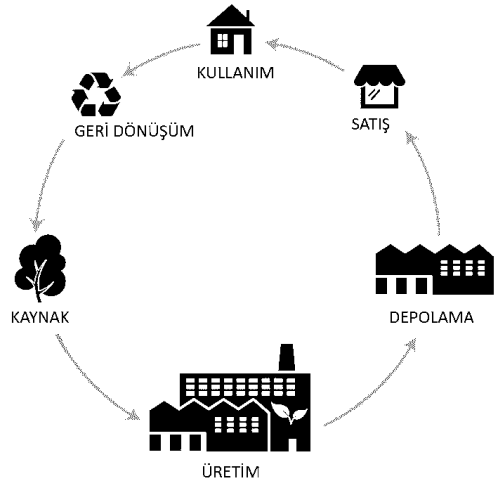


Figure-1 Life Cycle of Packing Materials

This document is taken as basis for all ASELSAN products and all packing components in Figure-2 (package, cushion and intermediate / outer package) used during the shipment of these products.

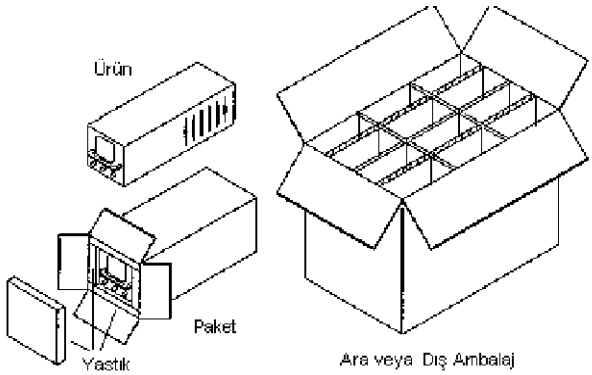


Figure-2 Packing Components

2. Definitions and Abbreviations

Abbreviation	Definition	Description
ADR	Accord Dangereux Routier	International Transportation of Dangerous Goods by Road
Packing and Intermediate Products	Intermediate Container	Packing made to facilitate the transportation and storage of packages in bulk.
	Exterior Container	Packing that is exposed to environmental impacts during transportation and storage.
	Cushion /Cushioning	Various filling materials that will reduce the movement of the product in the package and protect it from external impacts.
SC	Subcontracting Company	Companies that perform production, design and service according to ASELSAN documents or requirements and are evaluated and approved according to the principles specified in the ASELSAN Procurement Directive and related procedures; companies that have project, risk and configuration management capabilities and can be made to perform turnkey work.
ESD	Electrostatic Discharge	It is the release of static electricity when 2 objects containing electronic material come into contact.
	Labelling	Information about the contents of the package, place of shipment, transportation and storage conditions is printed on the package or displayed in a way that cannot be separated from the package.
IATA / DGR	International Air Transport Association	International Transportation of Dangerous Goods by Air
IPPC	International Plant Protection Convention	
MSDS	Material Safety Data Sheet	This document provides comprehensive information on the properties of hazardous substances and preparations, safety precautions to be taken in accordance with the hazardous properties of the substance or preparation in the workplaces where it is located, and the necessary information for protecting human health and the environment from the adverse effects of hazardous substances and preparations.
MSL	Moisture Sensitive Material	
	Pack (Unit Pack)	Packing in direct contact with the product.
	Supplier	Companies from which material and service purchases are made from domestic/foreign companies within the scope of ASELSAN projects and R&D activities, and which are classified as manufacturers (including Subcontractors and Sub-Industry), distributors, representatives, vendors or dealers within the scope of these activities.

Abbreviation	Definition	Description
HWL	Hazard Warning Label	It is a label showing the class and degree of danger of the loads in the packages used in hazardous cargo transportation.
	Hazardous Substance	Due to the structural characteristics of the material, it contains substances that pose a danger to the public, general order, important goods, people, animals and the environment during transportation.
TSI	Turkish Standards Institution	
	UN Number	A 4-digit number assigned by the UN Commission on the Transport of Dangerous Goods to identify a substance or group of substances.
YS	Sub-Industry Company	Companies that perform production and design according to ASELSAN documents or requirements and are evaluated and approved according to the principles specified in the ASELSAN Procurement Directive and related procedures.

3. Related / Reference Documents

Document No.	Document Name
PD-90-01	ASELSAN Sustainable Climate Change Policy
ASI-90-047	ASELSAN Safe Transportation of Dangerous Goods Tracker
ASI-90-057	ASELSAN Chemical Management Monitor
MIL-STD-129	Standard Practice for Military Marking
MIL-STD-130	Identification Marking of U.S. Military Property
MIL-STD-2073-1	Standard Practice for Military Packing

4. Responsibilities and Method

4.1. Responsibilities

All units that perform material, product packing and shipping in ASELSAN and all suppliers that provide products to ASELSAN are responsible for using the packing and labelling standards specified in this guide in order to ensure that the products arrive without damage during shipment.

4.2. Method

While meeting the stated responsibilities, attention is drawn to ensure the use of environmentally friendly packing materials within the framework of ASELSAN sustainability goals and the principles of Sustainable Climate Change Policy, Water Policy and Integrated Management Systems Policy, and to determine the relevant packing and labelling methods by creating packing standards specific

to the products.

Environmentally friendly packing materials, if product-specific requirements and conditions are appropriate changes to be made regarding its use should be as shown in Figure-3.

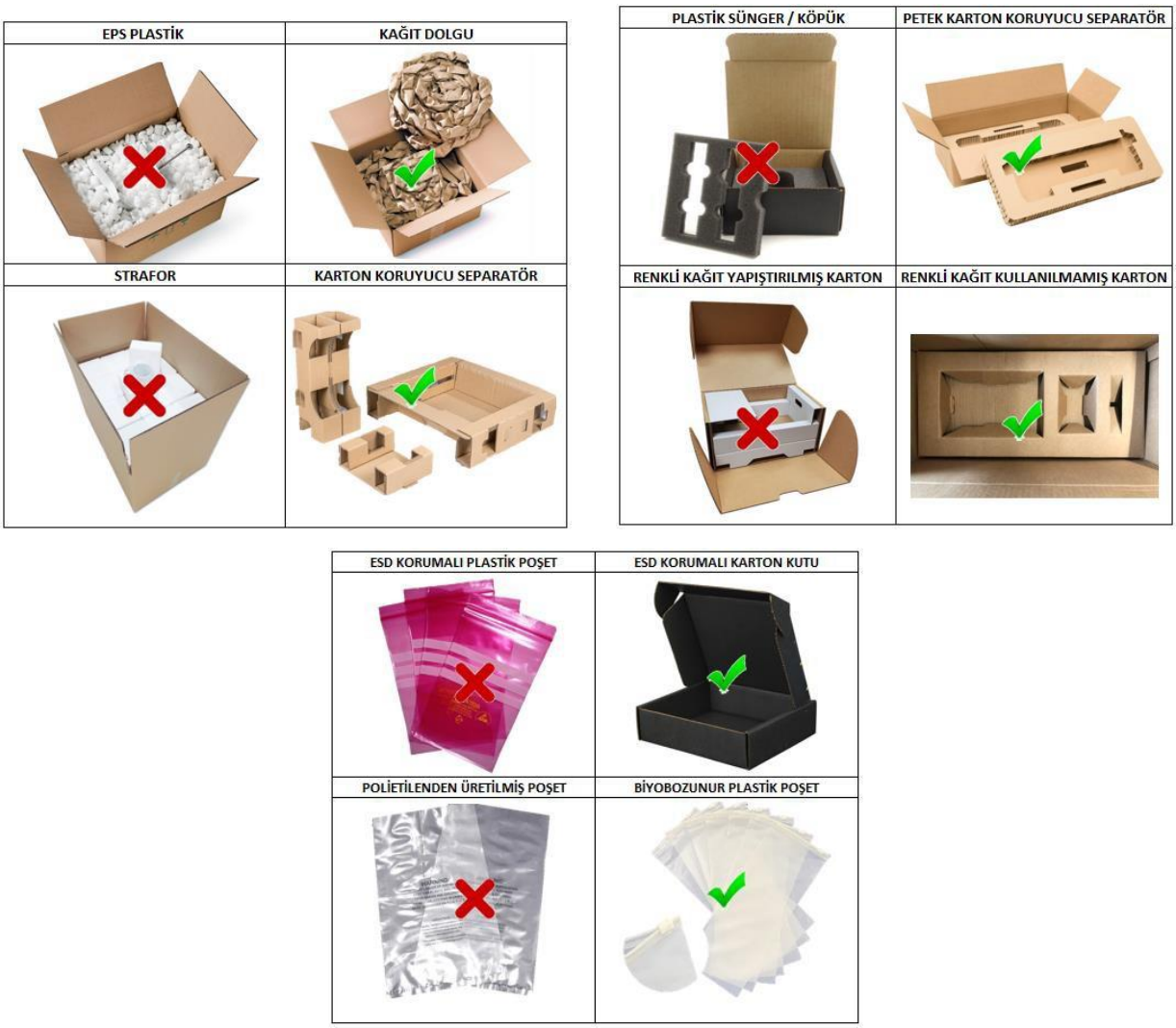


Figure-3 Examples of Environmentally Friendly Packing Materials

4.2.1. Packing Type Selection

The workflow for the selection of environmentally friendly packing materials that ensure the protection of the product during shipment in line with information such as product weight (kg), product volume information (width*length*height), place of shipment, method of shipment, product-specific conditions (ESD, magnetic, hazardous substance content, temperature, heat, corrosion, liquid contact, humidity, vibration, etc.) and the amount of product in the packing is presented in Figure-4. The supplier should also decide on the most suitable and environmentally friendly packing materials for the product based on the selection criteria in this diagram and the packing types defined in Article 4.2.2.

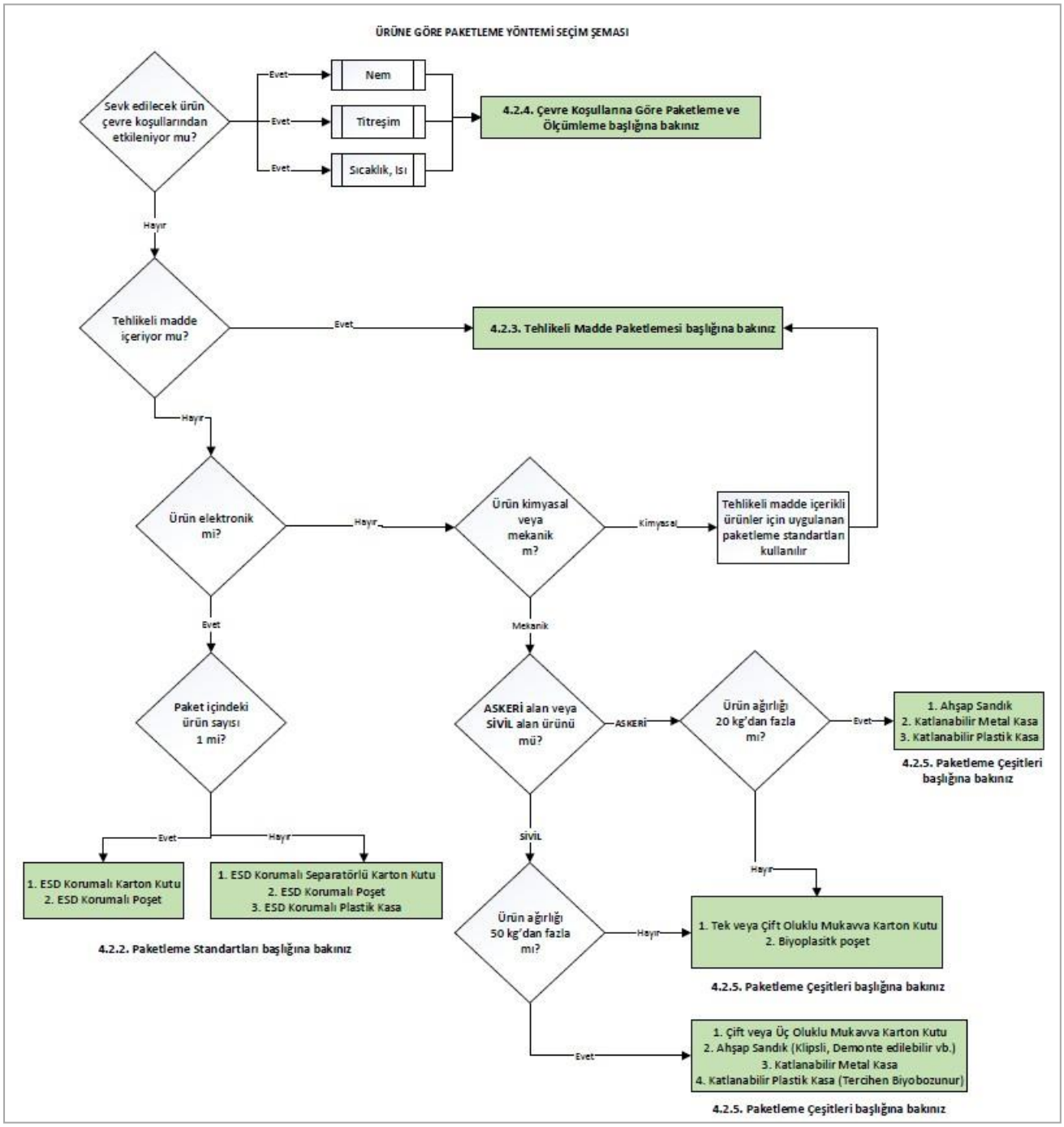


Figure-4 Packing Type Selection Workflow

4.2.2. Packing Types

ASELSAN encourages its suppliers to use environmentally friendly, recyclable, cardboard and corrugated cardboard packing materials for product/system packing. However, this use should be decided on the basis of the product not being damaged, not exceeding the carrying capacity of the package used and its suitability for the location where it will be used.

In this context, packing materials used for exterior packing, intermediate packing and cushioning may be corrugated cardboard boxes / parcels, wooden and plywood crates, reusable packing made of metal or plastic materials.

If the supplier needs to test the packing designed for products that are affected by environmental conditions or require special packing conditions depending on the design, it must perform all necessary tests at the TSE Packing Test Laboratory.

4.2.2.1. Corrugated Cardboard Box / Pack

Corrugated cardboard is divided into types according to the type of corrugation and the number of corrugations used. The Subcontractor Company must determine the corrugated cardboard to be used in product packing according to the information in Figure-15 and Table-8 in a suitable quality to carry the product.

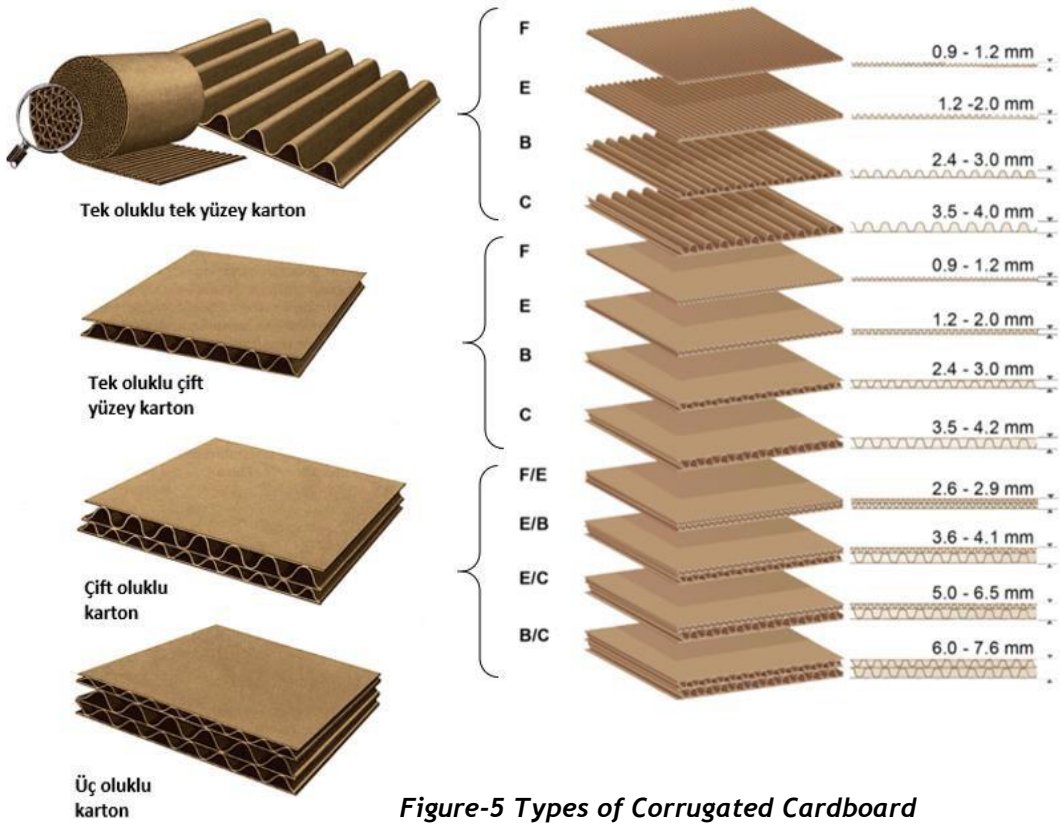


Figure-5 Types of Corrugated Cardboard

Corrugation type A carries vertical loads well and cushions horizontally effectively, but is not resistant to surface crushing. Corrugation type B is poor at carrying vertical loads but is quite resistant to surface crushing due to its more frequent waves. Corrugation type C has the favourable characteristics of corrugation types A and B but also gives satisfactory results in pressure. Corrugation type E has excellent surface crushing resistance due to the high number of corrugations and gives the best results in pressure.

Single wave corrugated cardboard is a suitable material for lightweight products. Single wave corrugation types are class B, C, E and F. Double-wave corrugated cardboard, with its strong structure, is used in box making for the transportation of heavy loads, very suitable for stacking, resistant to bursting and puncture. Double wave corrugation types are class EB, EC and BC. Three-wave corrugated cardboard is a packing material used for the transportation of bulky and very heavy loads, its thickness can reach up to 12 mm. Three-wave corrugation types are EBB, BCB, CBE and CBA class.

The type of paper to be used, the number of corrugations and the type of cardboard wave should be preferred using the data in Table-1 according to the weight of the product to be placed in the package.

X: Product Weight

X ≤ 15 kg	Single Corrugated Cardboard (B or C wave)
15 < X ≤ 50 kg	Double Corrugated Cardboard (BC wave), Kraft type paper should be used.
50 < X ≤ 80 kg	Triple Corrugated Board (ACB wave), Kraft type paper should be used.

Table-1: Cardboard Types According to Product Weight

4.2.2.1.1. Cardboard Box Size Information

If requested, all dimensions, length, width and height data of the box/carton package must be indicated on the delivery note as follows. The unit of measurement must be shared in millimetres (mm).

Length (L) x Width (W) x (H) Height

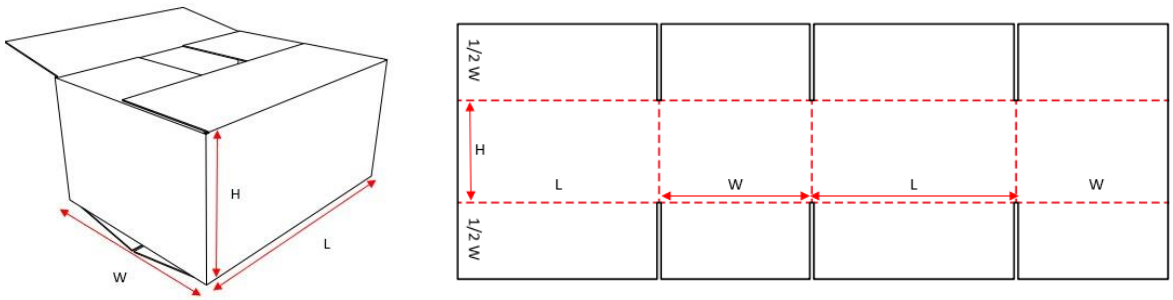


Figure-6: Cardboard Box Sizes

4.2.2.1.2. Box Color

Unprinted cardboard should be used for packing and no coloured paper should be printed on the outer surface. Color code 730 C should be preferred to be reduced by 20%.

4.2.2.1.3. Box Closing Method

The correct and efficient closure of the package is as important as the package structure itself.

The following closing methods can be used alone or in combination as shown in Figure-7:

- Use of water-based adhesive
- Use of tape made from recycled paper
- Sewing method

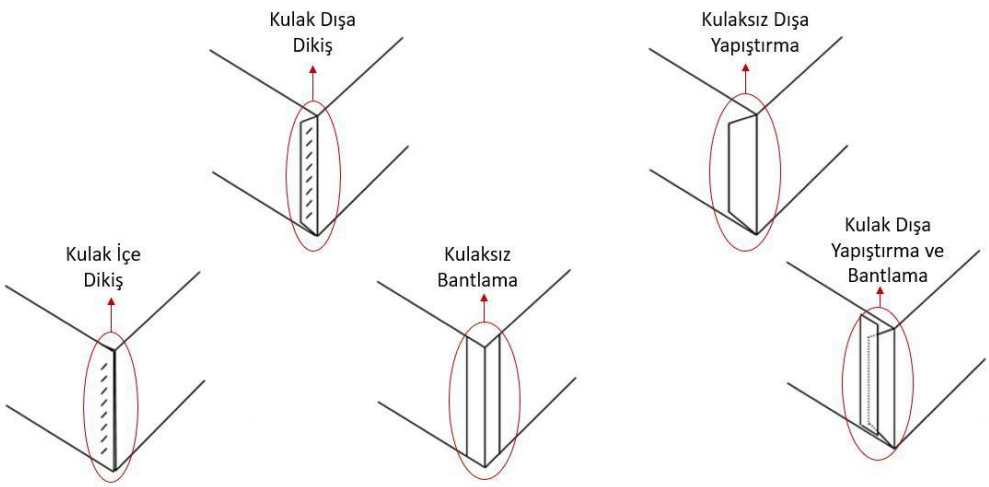


Figure-7 Box Closing Methods

When determining the method of cardboard box closure; the weight of the products to be placed in the box should also be taken into consideration. The cardboard closure methods that should be used depending on the weight of the products to be placed in the carton box are presented in Table-2.

X: Product Weight

X ≤ 15 kg	Adhesive / Taping
15 < X ≤ 50 kg	Adhesive and taping
50 < X ≤ 80 kg	Sewing and banding

Table-2: Box Closing Methods by Product Weight

4.2.2.1.4. Cushioning Types

In order for the product to be shipped without damage, the product placed in the cardboard box should be cushioned in a way that prevents the product from moving around and provides a buffer against external impacts.

It is expected to use the cardboard separator in Figure-17 or the bent corrugated cardboard in Figure-8.

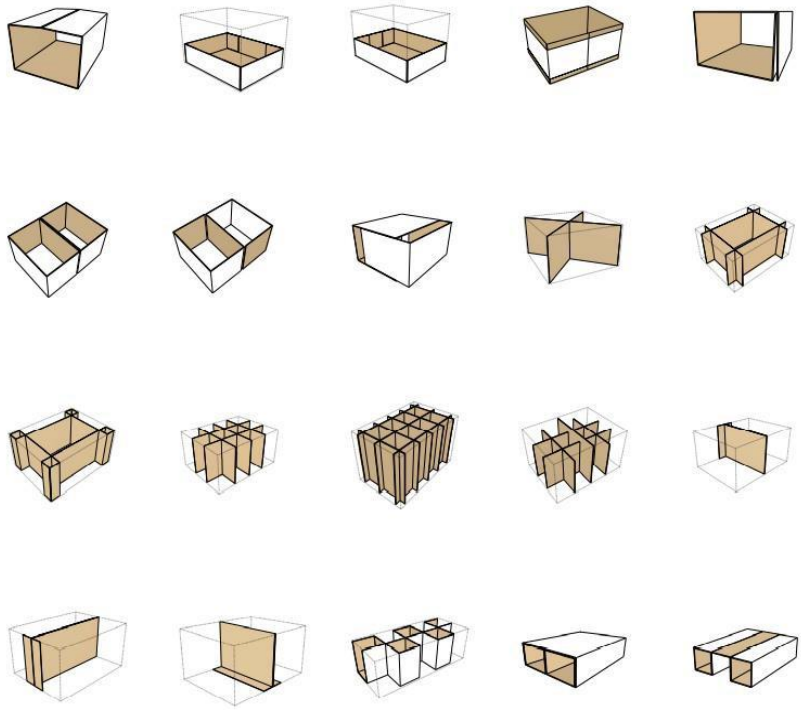


Figure-8: Cardboard Separator Types

In cases where it cannot be used, alternatives such as foam, polyurethane, air cushion can be used.

Figure-9: Types of Twisted Cardboard Separators

4.2.2.1.5. Cardboard Packing Recycling Symbols and FSC Certification

It is recommended to use FSC Certified material for packing. FSC Certification is a global, non-profit organization that oversees and promotes sustainable forest management worldwide. Packing with FSC certification is recognized as evidence of sustainable values. If suppliers have the FSC certificate in Figure-19 for their product packing or if there is a packing subcontractor with this certificate, it should be printed on the box / parcel with the Recycling symbol on the packing when it can be used on the product packing.

Figure-10: FSC Labelling on Packing

Certificate of Registration

This is to certify that

"the certified site" has been certified in accordance with the requirements of the Forest Stewardship Council® A.C. using the FSC® Chain of Custody standards" and that

is the Head Office for this Multisite Certificate and is hereby licensed to use the FSC Logo on and sell as FSC certified all products listed on the attached FSC product schedule as FSC Mix,FSC Recycled

Certificate Registration Code:

Licence Code:

Issued By: Soil Association Certification Limited, Spear House, 51 Victoria Street, Bristol, BS1 6AD, United Kingdom

Issue Date:
Valid until the Renewal Date:

Signed on behalf of Soil Association Certification

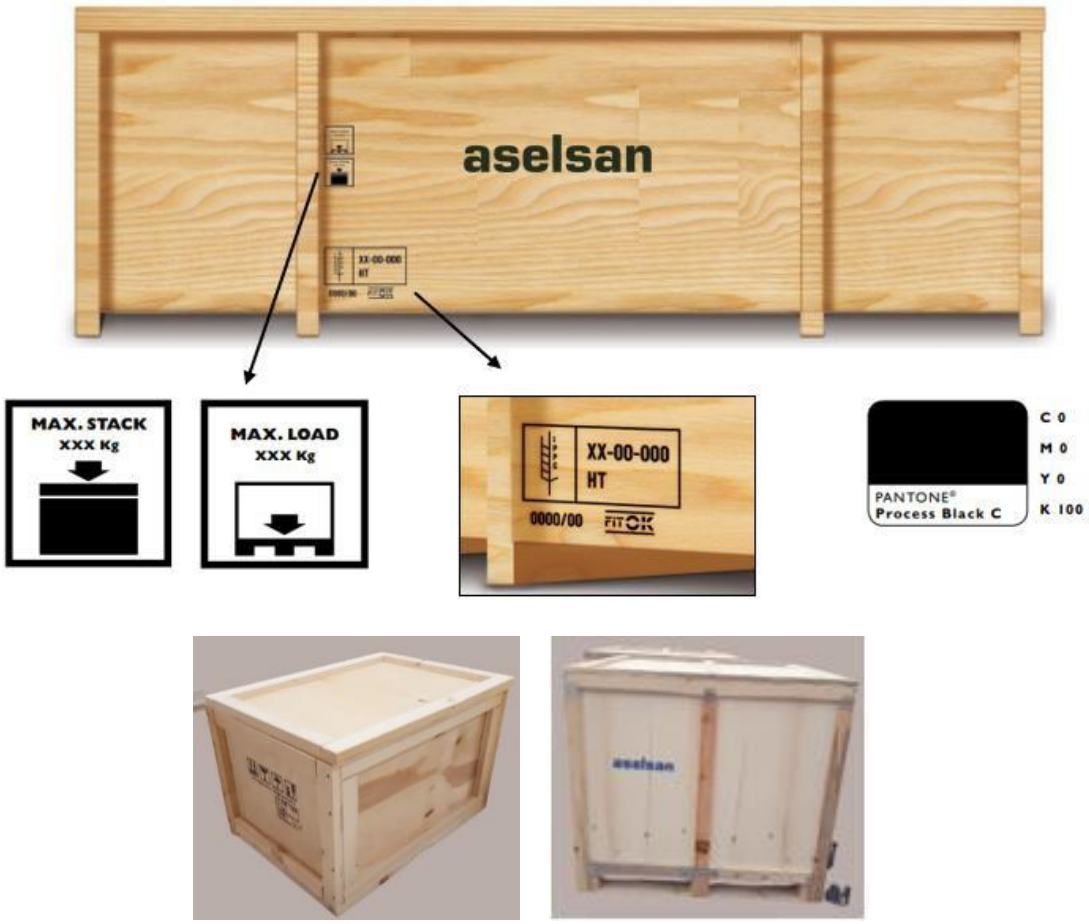
Figure-11: FSC Certification

4.2.2.2. Wooden Crate

Crate type packing made of wood should be preferred in line with the conditions specified in Figure 4 Packing Type Selection Scheme.

In order to protect the products inside the wooden crate during storage and transportation without damage, the maximum transport weight and maximum stacking symbols of the crate should be indicated on the packing as shown in Figure-12.

Figure-12: Wooden Crate Labelling



The wooden crate to be used must be heat treated in accordance with IPPC standards. If the wooden crate belongs to ASELSAN, the maintenance, repair and damage elimination needs of the wooden crate caused by use belong to the user supplier. In this context, the supplier should count the wooden crates belonging to ASELSAN in certain periods and provide information.

4.2.2.3. Metal /Plastic Crate

In cases where the use of wooden crate type packing is not suitable for the volume and weight of the product, the area where the packaged product will be stored is not suitable for the use of wooden crates, and the packing material needs to be used more than once, metal/plastic crate type packing may be preferred.

- In accordance with ASELSAN's sustainability and environmental approach, the type of plastic that has the least impact on the environment should be preferred. The raw material details of the packing material must be indicated on the product according to the plastic types in Figure-14.

The choice of metal or plastic crate should be determined according to the number of crates to be used and the frequency of use.

If the metal/plastic crate belongs to ASELSAN, the crate maintenance, repair and damage elimination needs arising from use belong to the user supplier.

Figure-13: Demountable Plastic Crate Demonstration

4.2.2.4. Plastic Bag

If there is more than one product in the package or if the outer surface of the product to be packaged is likely to be deformed as a result of contact with the cardboard box, the packing materials in Figure-23 made of plastic bags can be preferred instead of corrugated cardboard.

When using plastic bags, in accordance with ASELSAN's sustainability and environmental approach, the use of bags made of biodegradable plastic raw materials should be preferred. If access to biodegradable raw materials is limited or inaccessible, it is expected to prefer the type of plastic that has the least impact on the environment.

The recycling number of the packing material should be indicated on the package.

ABBREVIATION AND NUMBERING SYSTEM FOR PLASTIC PACKAGING		
Material	**Abbreviation**	**No**
Polyethylene terephthalate	PET	1
High density polyethylene	HDPE	2
Polyvinyl chloride	PVC	3
Low density polyethylene	LDPE	4
Polypropylene	PP	5
Polystyrene	PS	6
		…
Other		19

Table.3: Plastic Packing Abbreviation and Numbering System

Tanım kodu	Polimer tipi	Özellikleri	Kullanım alanları
01 PET	Polietilen tereftalat (PET, PETE)	Berrak, dayanıklı, sert.	Meşrubat, su şişeleri, kavanozlar.
02 PE-HD	Yüksek yoğunluklu polietilen (HDPE)	Sert, dayanıklı, neme dayanıklı, gaz geçirme özelliği	Su boruları, şampuan şişeleri.
03 PVC	Polivinil klorür (PVC)		Birçok alanda kullanılıyor. Yiyecek dışı şişeler, çit, parmaklık, pencere.
04 PE-LD	Düşük yoğunluklu polietilen (LDPE)	Esnek, yalıtım malzemesi	Sera örtüsü, film, ambalaj, elektrik sanayi
05 PP	Polipropilen (PP)	Sert, ısıya dayanıklı.	Plastik şişe, elektrik sanayi, mutfak eşyası
06 PS	Polistiren (PS)	Berrak ve kullanım kolaylığı	Oyuncak, video kaset, yalıtım malzemeleri
07 O	Diğer (Polikarbonat, naylon vb.)		

Figure-14: Recycling Numbers of Plastic Materials

The purpose of the numbers inside the loops is to identify the type of plastic used for the product. Not all plastics are recyclable or reusable. There are many plastic-based products that cannot be degraded and recycled. The areas of use and recyclability of the types of plastics that can be used are described below.

4.2.2.4.1. #1-PET (Polyethylene Terephthalate)

PET is one of the most widely used plastics in consumer products. It is found in most water and beverage bottles and some packing. It is intended for single-use applications. Products made of (PET) plastic should be recycled but not reused.

4.2.2.4.2. #2-HDPE (High Density Polyethylene)

HDPE plastic is a hard plastic used to make detergent and oil bottles, toys and some plastic bags. HDPE is the most widely recycled plastic and is considered one of the safest plastics. Recycling HDPE plastic for secondary use is relatively simple and cost-effective. HDPE plastic is very durable and does not degrade when exposed to sunlight, overheating or freezing. Therefore, products made from HDPE can be reused and recycled.

4.2.2.4.3. #3-PVC (Polyvinyl Chloride)

PVC is a soft, flexible plastic used to make clear plastic food packing, teething rings, children's and pet toys and blister packing for countless products. It is more commonly used as a covering material for computer cables and to prevent plastic pipes and piping from splintering. PVC is also used to make window frames, garden hoses, raised beds and cages, as it is relatively waterproof against sunlight and air. PVC is called "toxic plastic" because it contains a large number of toxins that it can leach over its entire life cycle. Less than 1% of pure PVC material can be recycled. Products made using PVC plastic cannot be recycled.

4.2.2.4.4. #4-LDPE (Low Density Polyethylene)

LDPE is often found in dry cleaning garment packing, plastics used in bread packing. The plastic bags used in most stores today are also made using LDPE plastic. This type of plastic is also used in some clothing and furniture. LDPE is considered less toxic than other plastics and relatively safe for use. Products made using LDPE plastic can be reused, but not always recycled.

4.2.2.4.5. #5-PP (Polypropylene)

Polypropylene plastic is hard and light. It is also very resistant to heat. It acts as a barrier against moisture, oil and chemicals. When you try to open the thin plastic liner in a cereal box, it is polypropylene. This lining keeps your cereals dry and fresh. PP is also widely used for disposable diapers, buckets, plastic bottle caps, margarine and yogurt containers and string. PP is considered safe for reuse and the products produced can also be recycled.

4.2.2.4.6. #6-PS (Polystyrene)

Polystyrene is a cheap, lightweight and easily formable plastic with a wide range of uses. The most common uses are disposable Styrofoam drinking cups, egg cartons, plastic forks, foam packing and foam used to fill shipping boxes to protect the contents. Because polystyrene is structurally weak and ultra-lightweight, it breaks easily and is easily degraded in the environment. Recycling is not common for polystyrene products.

4.2.2.4.7. #7-Other (BPA, Polycarbonate and LEXAN)

Category 7 is intended as a common collection category for polycarbonate (PC) and "other" plastics. Reuse and recycling protocols are therefore not standardized within this category.

4.2.3. Packing Standards

ASELSAN encourages its suppliers to use environmentally friendly, recyclable, cardboard and corrugated cardboard packing materials for product/system packing. However, the use of these materials should be decided in cases where the product will not be damaged, the package used will not exceed the carrying capacity of the package and according to its suitability for the location where it will be used.

4.2.2.1. If the package mass is more than 25 kg, the package must be transported by pallet truck or forklift. If there is no product-specific packing requirement, the packing type should be selected in accordance with the product dimensions and Figure 4 Packing Type Selection Workflow.

4.2.2.2. Each small volume material (fasteners, caps, etc.) should be separated and labelled to be placed in separate packages.

4.2.2.3. The list of contents of the products in the package must be affixed on the multi-pack. If defined, labelling must be applied on the packages.

4.2.2.4. Materials with the same stock number belonging to different orders are packed separately and sent in separate boxes.

4.2.2.5. The criterion for packing the products is to pack them separately if they weigh more than 2.3 kg or are larger than 85 dm3.

4.2.2.6. The preferred quantities for packing more than one product together are as follows: 20 pieces in a package between 0-500, 50 pieces in a package between 500-1000, 100 pieces in a package if the quantity is >1000.

4.2.2.7. Intermediate packing used in the co-packing process is a combination of 4 to 100 packs to facilitate bulk transportation and storage of the packs.

4.2.2.8. For intermediate packing, cardboard and corrugated cardboard are used primarily, but also bubble wrap, sleeves or bags.

4.2.2.9. It should be preferred that the size of the intermediate packing is suitable for transportation by one person.

4.2.2.10. Although the package should contain products with the same part number, if the package content is to be used as a double or set, this set should be kept. Materials consisting of more than one part and accessories should be packed as a set.

4.2.2.11. Packages should be cushioned with various filling materials to prevent the movement of the packages in the package during intermediate packing and to protect the package contents from shocks and vibrations to which the package may be exposed.

4.2.2.12. Bent corrugated cardboard or cardboard separator should be preferred as cushioning material. In cases where cardboard and corrugated cardboard solutions are not suitable, padding materials made of biodegradable plastic or pneumatic nylon can be used. Pneumatic nylon used as covers, bags and envelopes can also be used for packing and cushioning, provided that it completely covers the product and protects it from water and moisture.

4.2.2.13. If the product to be packaged has painted surfaces, packing should not be done before the paint is completely dry to prevent scratching and abrasion of the painted surfaces. Paper, plastic, fiber, etc. should be placed between the painted surfaces so as not to leave marks on the surfaces.

4.2.2.14. In order to prevent damage to the products to be packaged, the points in Table-4 should be taken into consideration packing should be done.

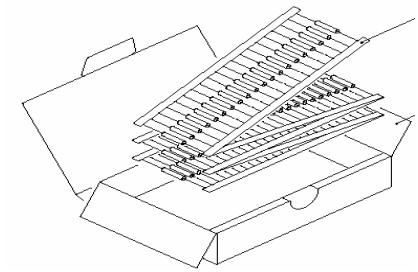
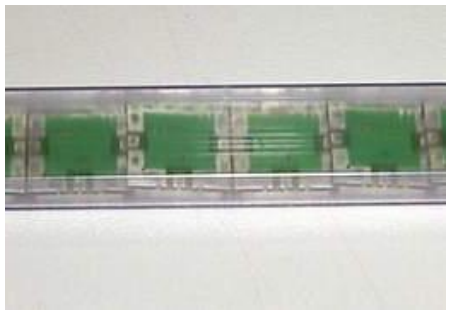
Table-4 Packing Standard to Prevent Damage to Products			
Damage Probability	**Precaution, Packing Specifications**	**Example**	**Storage and Shipment Package**
Oxidation, loss of solder ability of component legs	Packed airtight or by nitrogen vacuuming.		It can be in packs of 1 in a cardboard box and Multi-Pack with the same type of material in a box.
Bending of legs	Stored in a box suitable for the width of the components.		
Dampness of the component	Moisture-sensitive products are not to be unpacked, and if they need to be unpacked, they are to be closed immediately at the end of the process in an airtight way.		
ESD damage or burned part damage on processed surfaces.	In environments where ESD precautions are taken, they are kept in conductive / ESD-protected plastic bags with closed mouths. Placed in ESD protected boxes so that they do not have contact.	 	It can be in packs of 1 in a cardboard box and Multi-Pack with the same type of material in a box.

Table-4 Packing Standard to Prevent Damage to Products			
Damage Probability	**Precaution, Packing**	**Example**	**Storage and Shipment**
Damage, contamination of pins and sockets	If it has a dust cover or protective cap, these are fitted and sealed, protected by packing in a protective sleeve or plastic material.		It can be in packs of 1 in a cardboard box and Multi-Pack with the same type of material in a box.
Scratches	Soft and thin paper is placed between them. Using the same type of paper, they are wrapped tightly to prevent them from slipping. Wrapped in an ESD-protected plastic bag or bubble wrap.		It can be in packs of 1 in a cardboard box and Multi-Pack with the same type of material in a box.

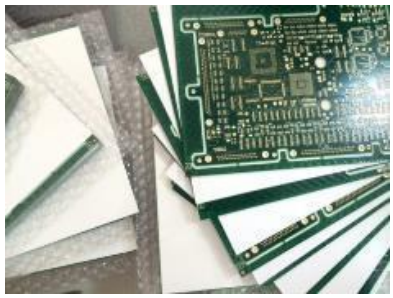
Table-4 Packing Standard to Prevent Damage to Products			
Damage Probability	**Precaution, Packing Specifications**	**Example**	**Storage and Shipment Package**
Moisture, oxidation and contamination	Protected from water and moisture. The card surface is not touched with bare hands. Packaged with nitrogen vacuuming according to possible kit quantities (5, 10 pieces, etc.).		It can be in packs of 1 in a cardboard box and Multi-Pack with the same type of material in a box.
Breakage	Wrapped in large sheets and at least 4 layers of paper to prevent the corners from breaking.		
Component breakage	Placed in boxes in a way that they do not contact each other.		
Oxidation	If it is to be stored for a long time, it is packed with nitrogen vacuuming.		

Table-4 Packing Standard to Prevent Damage to Products			
Damage Probability	**Precaution, Packing**	**Example**	**Storage and Shipment**
Falls, crashes, scratches	If available, the device's own carrying bag or case is used. Otherwise, it is wrapped and cushioned with anti-static, bubble-wrapped plastic packing materials.	 	Package is selected according to weight and dimensions. Single packaged.
Short circuit	Plastic caps are attached to the battery terminals. This prevents short circuit in case the terminals get wet or come into contact with conductive materials.	 	Single package with wooden crate should be preferred. A suitable packing is made by the supplier according to the place where the product will be delivered and transportation conditions.
Crushing, breakage of the polar heads	A foam board, thicker than the height of the terminals, is placed on the accumulator.		

4.2.2.15. Technical Details of Packing Materials Used

The dimensions of all packing materials used in the product must be specified - by the supplier - as length, width and height data as follows. The unit of measurement should be shared in millimetres (mm).

Length (L) x Width (W) x Height (H)

Length (L): Longest dimension of the package

Width (W): Shortest dimension of the package

Height (H): Height of the package from the ground.

4.2.2.16. Use of Logos and Symbols on Packing

In order to ensure that the packaged product is transported without damage during transportation, the warning symbols in Table-5 should be used in accordance with the contents of the package.

Table- 5 Symbols on Packing

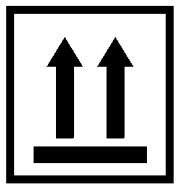
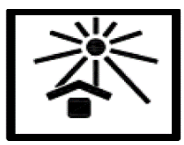
Explanation	Written Warning		Symbol
	Turkish	English	
Indicates the top surface of the package.	Üst, Yukarı	Top, Keep Upright, This Way Up	
Used to protect the package from water and moisture.	Su ve Nemden Koruyunuz	Keep Dry	
Used for careful transportation of fragile products.	Kırılacak Ürün, Dikkatli Taşıyınız	Fragile, Do Not Drop	
	Dikkatli Taşıyınız	Handle With Care	
Indicates that the packing is included in the recycling process.	Geri Dönüşümlü Ambalaj	Recycled	
Product to be protected from sun and heat	Güneşten Koruyunuz	Keep Away From Sunlight	
Product that needs to be kept in the cold.	Soğuk Tutunuz	Perishable-Keep Frozen	

Table- 5 Symbols on Packing			
	Written Warning		**Symbol**
Explanation	**Turkish**	**English**	
Indicates where the package should be tied during loading and unloading.	Kanca veya Sapanı Buradan Bağlayınız	Sling Here	
	Buradan Açınız	Open This Side	
Hooks must not be used for lifting the package.	Kanca Kullanmayınız	Use No Hooks	
Indicates the centre of gravity of the packaged load.	Ağırlık Merkezi	Center of Gravity	
Warning for ESD products	Elektrostatik Deşarja Duyarlı Elektronik Malzeme	Caution-ESD	
	Katlamayınız	Do Not Bend	

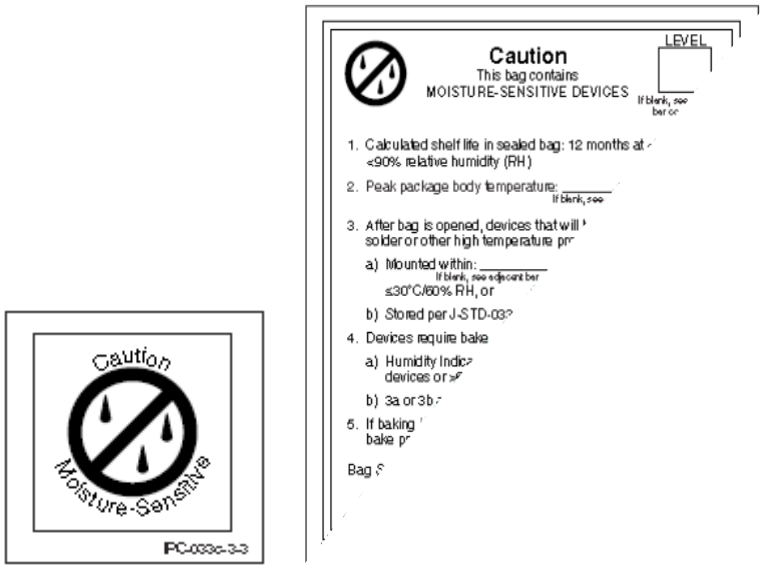


Figure- 15 Moisture Sensitive Material Label

Figure- 16 Moisture Indicator Board and Dehumidifier

The following symbols should be used on product packing:

- Surface of the package on top
- Protect from water and moisture symbol
- Handle with care symbol
- Recycling symbols

If the product is a fragile product, the relevant symbol must be on the packing.

4.2.2.17. Label Usage

Labels are placed on the packing to prevent confusion of the packaged product and to provide information about the product to the carrier and receiving parties.

Labels should contain the following information about the product.

a. On the packing of all kinds of products;

- Part number and quantity of the product,
- order number,
- warning labels, if any,
- batch or serial numbers, if any.

Transfer printing and stencil writing methods should be used for labelling.

The colour of the label should be chosen in contrast to the text on the label and the colour of the surface to be adhered, unless there is a special request.

In the coding of a batch consisting of several parts, when the products are packaged separately, the relationship of each package to the other packages should be specified.

For example, packages consisting of 3 packages and batch number 655;

- 1st package 655/1/3
- 2nd package 655/2/3
- The 3rd package is labelled 655/3/3.

Labels must be made of abrasion-resistant material, printed with colourfast printing ink and affixed in such a way that they will not tear during shipment of the package.

4.2.2.18. Packing List

The List of Contents is placed in a waterproof transparent envelope and affixed to the crate (Figure 17). A copy is also placed in the transparent envelope inside the packing. The list of contents contains the following information:

- Manufacturer and address
- Stock number and description
- Serial, order and batch numbers
- Customer stock number (National or NATO stock number)
- Quantity, dimensions and weight
- Number of packages (e.g. 1/6, 2/6, etc.)
- Warning information
- Legally required information.

Figure- 17 Packing List and Envelope

4.2.4. Hazardous Material Packing

Hazardous substances are substances that can harm goods, the environment or organisms when they are released or misused due to their chemical structure.

Hazardous substances are grouped according to their chemical structure (flammable, pressurized), shape (solid, liquid, gas) and hazards (explosive, toxic). In the classification of hazardous goods belonging to each group, a UN Number must be given for each product.

All substances containing hazardous substances and to be transported must be transported, packaged and labelled as in Figure-18 in accordance with the global transportation standards in Figure-19 according to the mode of transport.

Figure-18: Transportation Standards According to the Mode of Transportation of Dangerous Goods

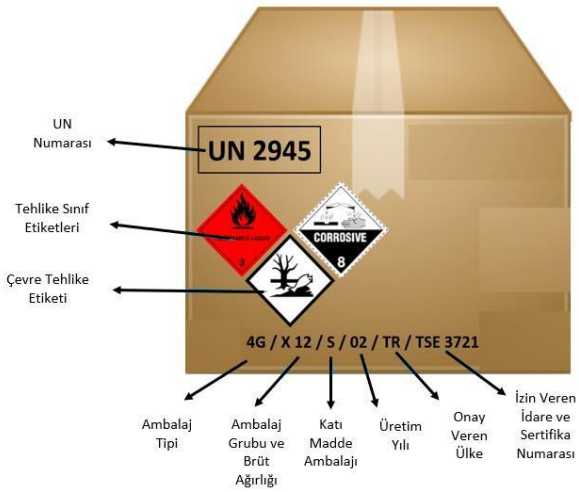


Figure-19: Dangerous Goods Packing Standards Sample Illustration

The numbers at the bottom corner of the labels used to indicate hazardous products indicate the class of the product and their meanings are given in Table-6.

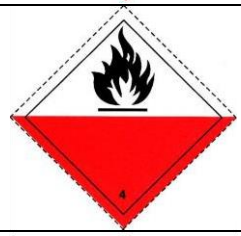
Table-6: Hazardous Substance Classes and Symbols			
Class	Written Warning		Symbols
	Turkish	English	
Explosive Substance	Patlayıcı Madde	Explosive	
Gas	Yanıcı ve Toksik Olmayan Gaz	Non-flammable, nontoxic gas	
Flammable Liquid Substance	Kolay Tutuşan Yanıcı Sıvı (Benzin, Tiner, Boya, Tutkal vb.)	Flammable Liquid	
Flammable solid Substance	Kolay tutuşan katı madde	Flammable solids, self-reactive	
Spontaneously Combustible Substance	Kendiliğinden Yanabilir	Spontaneously Combustible	
Substances that emit flammable gas when in contact with water	Islandığında yanıcı (tehlikeli)	Dangerous When Wet	
Combustible and Organic Substances.	Oksitleyici	Oxidizing Substance	

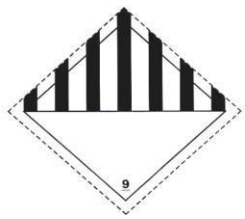
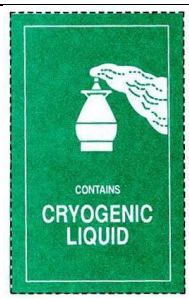
Table-6: Hazardous Substance Classes and Symbols			
Class	Written Warning		Symbols
	Turkish	English	
Toxic Substance	Zehirli Maddeler (Elektronik Atıklar)	Toxic material	
Substance with Infectious Properties	Enfekte edici madde (Tıbbi Atıklar)	Infectious substance	
Radioactive Substance	Radyoaktif madde	Radioactive Material	
Corrosive Substance	Aşındırıcı madde (Akü, Sülfirik asit vb.)	Corrosive Substance	
Other Hazardous Substances	Diğer sınıf başlıklarında kapsanmayan tehlikeli maddeler (Lityum Piller, Defibrilatör, Airbag vb.)	Miscellaneous Dangerous Substances and Articles	
Cryogenic Liquid	Kriyojenik (Dondurucu) Sıvı	Cryogenic Liquid	

Table-6: Hazardous Substance Classes and Symbols			
Class	Written Warning		Symbols
	Turkish	English	
Dry Ice	Kuru Buz	Dry Ice	
Magnetized Material	Manyetik malzeme	Magnetized Material	
Cargo Aircraft Only	Sadece Kargo Uçağına Yükle	Cargo Aircraft Only	

The supplier who will pack hazardous goods must meet the following regulatory requirements:
Applicability (Definitions, Shipper Responsibilities, Caution, Training, Dangerous Goods Safety)
• Regulations (International legislation, United Nations Manual of Tests and Criteria)

• Classification (UN Numbers, Classification scenarios, Tests)

• Identification (List of hazardous substances, Special provisions)

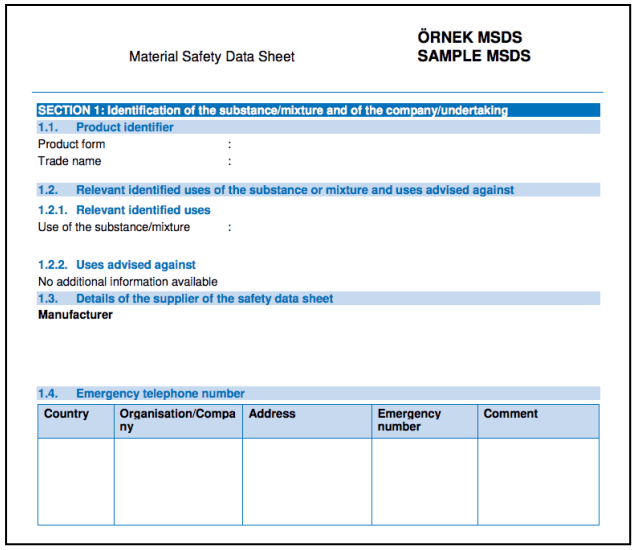
• Packing (Packing components, Quantity limits, United Nations Specifications and Instructions)

• Packing Performance Tests if deemed necessary (Test frequency, Drop test, Stacking test, Reports)

• Marking and labelling (Signs, Hazard warning label, Shipper's responsibilities)

• Documentation (Material Safety Data Sheet in Figure-9, Loader Safety Data Sheet in Figure-20 Documents such as declaration)

• Acceptance (Checklists, Rejections)



Material Safety Data Sheet

ÖRNEK MSDS
SAMPLE MSDS

SECTION 1: Identification of the substance/mixture and of the company/undertaking

1.1. Product identifier

Product form :

Trade name :

1.2. Relevant identified uses of the substance or mixture and uses advised against

1.2.1. Relevant identified uses

Use of the substance/mixture :

1.2.2. Uses advised against

No additional information available

1.3. Details of the supplier of the safety data sheet

Manufacturer

1.4. Emergency telephone number

Country	Organisation/Company	Address	Emergency number	Comment

Figure-20: Sample Material Safety Form

Shipper's Declaration Completion–Example 1

SHIPPER'S DECLARATION FOR DANGEROUS GOODS

IATA

Shipper
ABC Co.
123 Example Street
Montreal, Qc, Canada

Air Waybill No.

Page 1 of 1 Pages

Shipper's Reference No. (optional)

Consignee
DEF Co.
456 Regent Road
London, England

WARNING

Failure to comply in all respects with the applicable Dangerous Goods Regulations may be in breach of the applicable law, subject to legal penalties.

TRANSPORT DETAILS

Airport of Departure (optional): Montreal

Airport of Destination (optional): London, Heathrow

Shipment type: *(delete non-applicable)*

NON-RADIOACTIVE ~~RADIOACTIVE~~

NATURE AND QUANTITY OF DANGEROUS GOODS

Dangerous Goods Identification						
UN or ID No.	Proper Shipping Name	Class or Division (subsidiary hazard)	Packing Group	Quantity and Type of Packing	Packing Inst.	Authorization
UN 3090	Lithium metal batteries	9		1 Fibreboard box x 8 kg	968	

Additional Handling Information

24 Hour Emergency Response Telephone Number: +1 514 123 4567

I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labelled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations. I declare that all of the applicable air transport requirements have been met.

Name of Signatory: J. Smith

Date: 1 January 2021

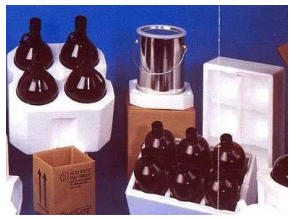
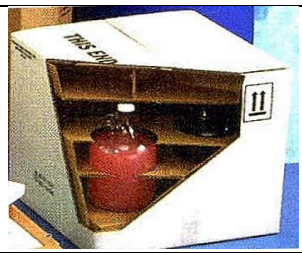
Signature (See warning above): *J. Smith*

Figure-21: Shipper Declaration Sample Illustration

If the product has been removed from its original packing and will be placed in a different packing, the hazardous substance markings related to the product must be transferred to the new packing in accordance with the original.

The points in Table-7 should be considered in the packing of materials such as lithium metal or lithium ion batteries classified as "Other hazardous substances" and batteries classified as "Corrosive Substances".

Table-7: Considerations for Hazardous Material Packing

Probability of Damage	Precaution, Packing Specifications	Example
Short circuit	Items containing Lithium batteries, such as defibrillators, must have passed quality control tests and all terminals must be protected against short circuits.	
Short circuit, crushing and breakage of the pole heads	A plastic cover is attached to the battery terminals and a foam sheet thicker than the height of the terminals is placed.	
Decay	It is stored in the environments specified on the product or in the documentation.	
Combustion	Not kept in hot temperatures. Stored in cabinets reserved for flammable products.	
Leakage	The package must be tightly closed so that it does not leak and precautions must be taken to prevent it from tipping over.	

Transportation of Hazardous Good by Air;

- The packing of hazardous materials to be transported by air must be of high quality, safely, in a way that will not be destroyed by the temperature, humidity and pressure changes or vibration caused by air transportation.

  Packages should be made in accordance with the content. Packages in direct contact with hazardous substances must be resistant to chemical and other reactions of substances. Chemicals that need to be stored at -18 and -40 degrees must be transported with dry ice.
- Packages must be produced, used and tested for accuracy in accordance with the specifications mentioned in the IATA standards for hazardous material packing.
- In the case of containment of liquids, the packing must optimally contain the liquid, prevent leakage or withstand leakage in case of leakage and withstand pressure as described in the technical instructions.

  The inner packing must be secure and protected by soft and absorbent means of protection to prevent the product from breaking, leaking and moving with the outer packing.
- If the packing is reused, it must be checked for corrosion and other damage to avoid contamination of the contents. Empty packing that has not been cleaned from previous contents may pose a hazard
- The hazardous content of the hazardous substance must not come into contact with the outside of the packing.
- Each hazardous material package must be labelled with appropriate labels and in accordance with IATA standards.
- Each hazardous goods package is marked with the shipping name and UN number in accordance with its contents must be labelled.
- Warning signs used in hazardous substance packing must be in English.
- If the hazardous substance label is removed from the original packing and placed in a different packing, it must be transferred on the new packing in accordance with the original.
- Before submitting the hazardous goods packing for transport by air, it should be checked that the hazardous goods are not prohibited to be transported by air and that they are properly classified, packaged, marked, labelled and will be sent with a signed hazardous goods transport document specified in IATA standards.

4.2.5. Packing and Measurement According to Environmental Conditions

Materials to be transported by air, sea, rail and road may need to be packaged according to ambient conditions and modes of transportation.

Moisture can cause oxidation or corrosion of the products in the package, while temperature and heat changes can cause products that are sensitive to temperature changes to not work properly after shipment or reduce their service life.

The protection of products containing chemical materials and long-lasting protection with chemical protection methods can be achieved by applying substances such as zinc phosphate or stainless zinc-containing paint to the surfaces.

Substances such as wax and resin will provide temporary protection as they can be removed when the product is unpacked. Anti-abrasion papers, thin films, protective oils, silica gel (moisture retainers), VCI bags and volatile substances that prevent abrasion are effective means of corrosion prevention. Thermal protective covers can be used as a precaution against temperature and heat changes.

If the packaged product is sensitive to humidity, desiccant materials, mostly in the form of granules, are used to absorb water vapour and ensure dry air inside the package. Dehumidifiers are materials whose size and number are determined by the volume of the unit in which they are used. However, there are other important factors besides volume.

The type of product to be protected, the duration of shipment and storage, the climatic conditions during closure and use, the insulation materials used.

Table-8: Considerations for Packing of Products Affected by Environmental Conditions

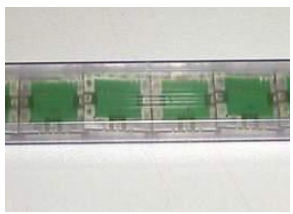
Probability of Damage	Precaution, Packing Specifications	Example
Loss of solder ability of metallic coatings as a result of oxidation.	Packed airtight or by nitrogen vacuuming.	
Dampness of the component	Moisture-sensitive products are not to be unpacked, and if they need to be unpacked, they are to be closed immediately at the end of the process in an airtight manner.	

Table-8: Considerations for Packing of Products Affected by Environmental Conditions		
Probability of Damage	**Precaution, Packing Specifications**	**Example**
Moisture, oxidation and contamination	Protected from water and moisture. Moisture-retaining silica gel is used. The card surface is not touched with bare hands. Packaged with nitrogen vacuuming according to possible kit quantities (5, 10 pieces, etc.).	 
Mechanical parts oxidation	Lubricated with thin oil, anti-corrosion VCI plastic bags and/or boxes are used.	 
Mechanical impacts, Damage during loading and transportation Loss of function of the material.	All openings are closed. Loose parts are tied. Wrapped with air nylon to prevent weathering and contamination. The edges of the package are protected with a wooden frame.	
Water, moisture	Each book or set of books is tightly packed with leak-proof plastic materials.	
Sunlight	Placed in closed corrugated cardboard boxes	Table-5 Protect from Sun Warning Sign

The following devices are expected to be used to monitor the environmental conditions to which packaged products affected by environmental conditions are exposed during shipment.

While the shipment tracking device is used to observe the environmental conditions to which packaged products affected by environmental conditions are exposed during shipment, indicators

that measure the inclinations and vibrations that the product is exposed to after loading into the vehicle and change colour accordingly are used. Images of the devices are given in Table-9.

Measurement devices provide a visual deterrent to mishandling, reduce product damage, check the effectiveness of product packing and help identify trouble spots in the supply chain from production to transportation and storage.

Table-9: Environmental Conditions Measurement Devices

Description	Explanation	Image
Shock Watch	In order to determine whether the transported product is affected by mechanical shock, a mechanical impact sensing indicator called impact indicator should be used.	
Tilt Watch	Detects any tilting that may occur on packaged products that must remain upright during shipment.	
Shipment Tracking Device	It records all environmental conditions of the product during shipment and reports the conditions specified by the user.	

4.2.5.1. Shock Watch

These are disposable indicators that are affixed on packaged products, detect vibrations and impacts to which the product may be exposed and change colour accordingly.

If it is necessary to use the impact indicator during shipment, the indicator type in Table-10 is selected according to the weight and dimensions of the product to be shipped.

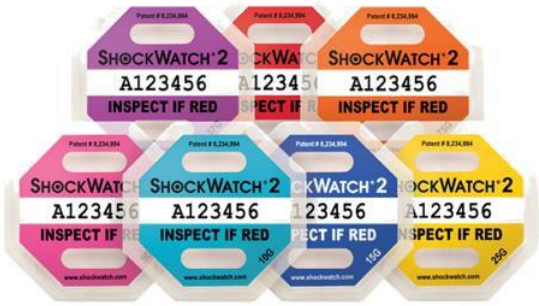


Figure- 22: Types of Shock Watches

Selection Criteria:

- Shipment size and weight,
- Product fragility and packing:
  - More fragile products require a more sensitive (low G-force) gauge,
  - More robust packages need a less sensitive (higher G-force) gauge.

Volume,m3 / Mass,kg	0,42 - 0,42 m³	0,42 - 1,42 m³	1,42 - 2,83 m³	2,83 - 7,08 m³	7,08 - 14,16 m³	14,16 - 304,8 m³	304,8 + m³
0 - 5 kg	75 G	75 G	50 G	37 G	N/A	N/A	N/A
5 - 11 kg	75 G	50 G	50 G	37 G	25 G	N/A	N/A
11 - 23 kg	50 G	50 G	37 G	25 G	25 G	15 G	N/A
23 - 45 kg	50 G	37 G	37 G	25 G	15 G	15 G	10 G
45 - 113 kg	37 G	37 G	25 G	25 G	15 G	15 G	10 G
113 - 454 kg	37 G	25 G	25 G	15 G	15 G	10 G	10 G
454 - 907 kg	25 G	25 G	25 G	15 G	15 G	10 G	5 G
907 - 2,268 kg	25 G	25 G	15 G	15 G	10 G	10 G	5 G
2,268 - 4,536 kg	25 G	15 G	15 G	15 G	10 G	10 G	5 G
4,536 - 6,804 kg	N/A	15 G	15 G	10 G	10 G	5 G	5 G
6,804 - 9,072 kg	N/A	N/A	10 G	10 G	5 G	5 G	5 G
9,072 - 13,608 kg	N/A	N/A	N/A	5 G	5 G	5 G	5 G
13,608 + kg	N/A	N/A	N/A	N/A	5 G	5 G	5 G

Table-10 Impact Indicator Selection Table

The usage details are as follows:

- If the impact indicator is red, the product package is damaged, if it is white, the product package is not damaged

Figure-23: Impact Indicator Damage Display

For shippers:

1. 1. Place the warning label on the front surface (longest side) of the package, closest to the right edge and in the lower third of the package height, in the area marked in the figure.

2. Place the impact indicator on top of the warning label where indicated.

Points to note;

- The indicator is activated after the adhesive tape behind the indicator is removed.,
- After placing the indicator, press firmly on the centre of the indicator so that it sticks to the surface.
- The indicator is for single use only. Do not reuse the indicator after shipment even if the indicator is white.

For buyers;

- If the product has arrived by cargo, return the product to the carrier. If the product has arrived by transportation, sign on the delivery note that you have received the package.

4.2.5.2. Tilt Watch

Disposable indicators that are affixed to packaged products, detect the inclination to which the product may be exposed and change colour accordingly.

The tilt indicator detects any tilt that may occur on packaged goods that must remain upright during shipment. For the indicator to activate, this tilt must be at least 80° or the package must be completely inverted to the right / left.

The usage details are as follows;

If the tilt indicator is red, the product package has been damaged due to a tilt of at least 80°,

If it is white, the product package is not damaged.

Figure-24: Tilt Indicator Damage Display

For shippers;

1. Place the warning label on the front surface (longest side) of the package, in the lower right corner, in the area marked in the figure.

2. Move the tilt indicator to the upright position and place it where indicated on the warning label.

Uyarı Etiketi

Points to note;

- The indicator is activated after removing the adhesive tape behind the indicator. After inserting the indicator, press firmly on the centre of the indicator so that it sticks to the surface.
- After placing the indicator, check that it is in an upright position, do not tilt it to the right or left.
- The indicator is for single use only. Do not reuse the indicator after shipment, even if the indicator is white.

For buyers;

1. If the impact indicator is red, call ASELSAN call centre and report that the package is damaged.
2. If the product has arrived by cargo, return the product to the carrier. If the product has arrived by transportation, sign on the delivery note that you have received the package.

4.2.5.3. Shipment Tracking Device

It is a tracking device that records the environmental conditions of all processes that take place in the journey of a product or service from the manufacturer to the consumer in the supply chain and detects violations identified by the user. This device can instantly control impact, temperature, humidity and location information. These are;

- How much temperature the packaged product is exposed to and for how long,
- How much moisture the packaged product is exposed to and for how long,
- Instant location information of the packaged product and whether it has gone off route,
- When and how much impact the packaged product was exposed to,
- How long the packaged product was exposed outside the storage conditions.

Figure-25: Shipment Tracking Device Display

4.2.5.5. Implementation of Sustainability Approach in the Packing of Purchased Materials and Packing Materials Used for Packing

In accordance with ASELSAN Sustainability targets, it is important for the sustainability cycle that both the packing of the materials coming to ASELSAN through procurement and the packing materials to be used in packing for shipment purposes are selected from recyclable materials. In this context, the recycling requirements of the materials purchased and the packing materials to be used in packing should be included in the documents of these materials and purchases should be made accordingly in order for the application to be institutionalized and permanent. Whether the companies meet the recycling requirements to be included in the documents can be kept under control by auditing them during the entry quality control phase. The following is a schematic description of how sustainable material control can be ensured both in the packing of the purchased materials and in the packing materials.

Figure-26: Sustainable Material Diagram

4.2.6. Stacking, Storage and Transportation Conditions

According to the physical properties of the product, transportation and storage conditions, whether it contains hazardous substances or not, and the sensitivity of the product to environmental conditions, the type of packing is decided by taking into account the information in the 4.2.4. Hazardous Substance Packing, 4.2.5. Packing and Measurement According to Environmental Conditions, 4.2.2.

Hazards that the packaged product may encounter during transportation and storage;

- Falling, impact and vibrations during loading, unloading, transportation,
- Crushing of packing as a result of stacking,
- Spikes or sharp edges break, bend or puncture the packing,
- Corrosion, dusting and contamination may occur due to environmental conditions such as heat, cold, humidity and rain. Packing should be done in such a way as to prevent or minimize the impact of these potential hazards on the product.

If corrugated cardboard boxes are stacked on top of each other for placement on pallets or storage, the strength of the boxes decreases depending on the humidity of the environment and the time the packages are kept stacked. The effects of stacking time and humidity on the strength of corrugated cardboard boxes are given in Table-10 and Table-11 respectively.

If corrugated cardboards are used by stacking, storage for 10 days or more should not be preferred. Corrugated cardboards should not be stacked under high humidity conditions (75% and above relative humidity).

Duration	Stacking Resistance
Short time	% 100
10 days	% 65
30 days	% 60
100 days	% 55
1 year	% 50

Table-10: Fatigue Effect

Relative Humidity	Stacking Resistance
dry	% 100
% 25	% 90
% 50	% 80
%75	% 65
% 85	% 50
% 90	% 40

Table-11: Moisture Effect

Stacking of corrugated cardboard and method:

- Corrugated cardboard is made into unit loads by binding the required number of packages and stacking them on a pallet.
- Storage in an unassembled state affects the performance of the cardboard. The ties of the boxes stacked in an unassembled flat state should not be opened until they are to be used.
- For a more robust stack, the placement of the ties on the pallet should be done in different directions. The stacking height of the boxes should not be too high.
- Discarded cardboard sheets should be laid on the pallet to balance the load distribution and to prevent damage to the surface.
- Boxes must be stored on pallets or similar materials and must never be left on the ground.
- Tied boxes must not be dragged or moved by throwing.
- Transportation must be done by hand pallet or forklift.

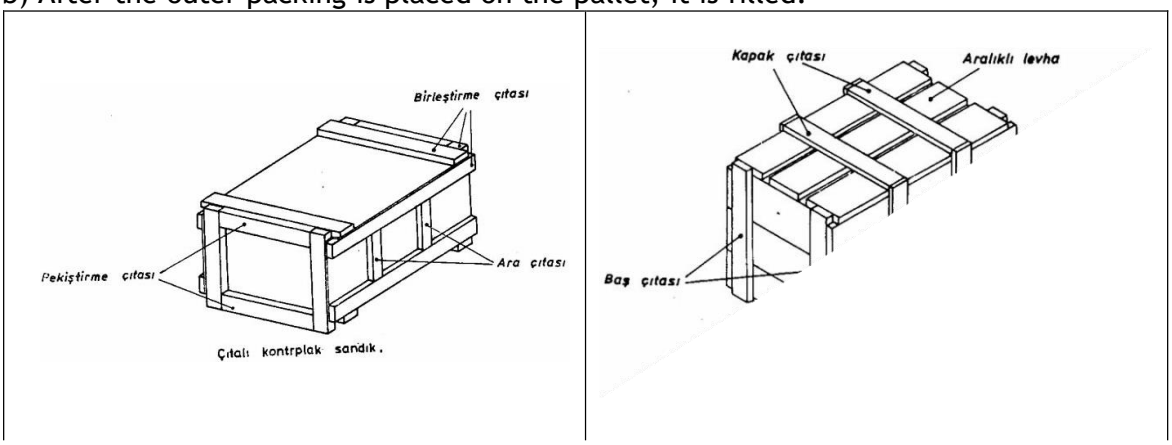
- The boxes in the stack must not be weighted or pressed.
- Boxes should be stored horizontally on a smooth surface and should not be placed on the edge.
- Pallets should not be stacked on top of each other during storage.
- Boxes should be stored in a place free from dust and moisture.

4.2.6.1. Using Dehumidifying Material in Packing

If the packaged product is sensitive to moisture, desiccant materials are used, mostly in the form of granules, which absorb water vapour and ensure dry air inside the package. In these cases, the outer packing material with very low moisture permeability is preferred and half a kilogram of desiccant is placed inside the packing for each cubic meter of air space.

4.2.6.2. Exterior Container

Materials that can be used as outer packing can be wooden, plywood crates, barrels, reusable transport bags and crates made of metal, plastic or composite materials, containers, weather-resistant corrugated cardboard boxes.
When materials with high water and moisture permeability such as wooden crates or corrugated cardboard boxes are used for outer packing, the entire product is wrapped with plastic foil to prevent the product from being affected by rain and moisture. Even if tarpaulin, etc. is placed over the outer packing, the products must be covered with plastic foil as mold and mildew may occur.
Corrugated cardboard boxes should be made of Kraft material resistant to external factors such as moisture and water.
Materials between 10-20 kg or thin sheet metal, bags, foam, etc. that can be affected by impact should be supplied and stored in boxes made of 3 corrugated (triplex) kraft material.
Materials between 0-10 kg should be supplied and stored in 2 corrugated (duplex) boxes made of kraft material with a paper weight of 140 g per unit area.
Corrugated cardboard boxes will have information on the raw material and corrugation type of the box (e.g. kraft 140 gr CB)
If the gross weight of the outer packing is more than the limits foreseen for transportation with two persons;
a) It is raised with wedges to allow the outer packing to be transported by pallet truck or fork-lift,
b) After the outer packing is placed on the pallet, it is filled.



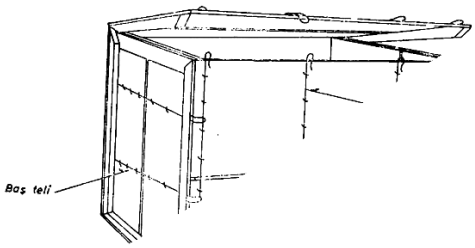
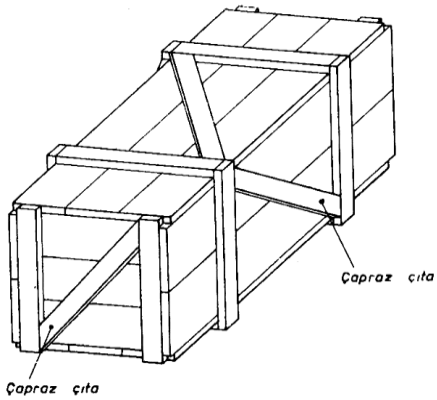
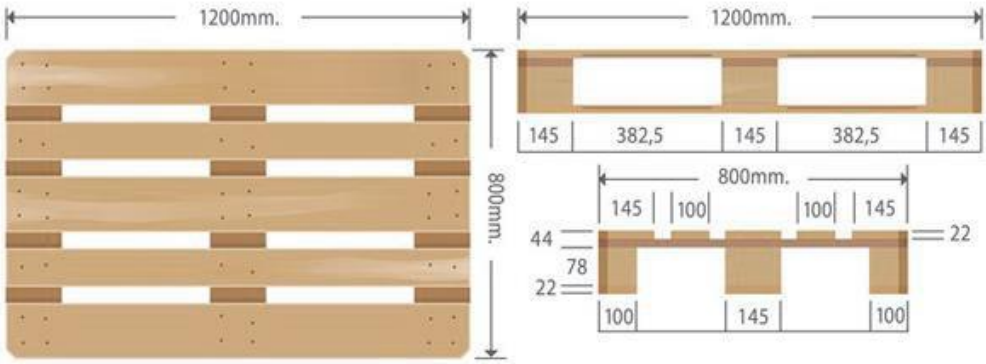
a. Slatted Plywood Crate	b. Wooden Crate
	
c. Welded Wire Crate	**d. Cross Slatted Crate**

Figure 27- Various crates used for outer packing

4.2.6.3. Pallet

Large quantities or heavy products (20 kg and over) are placed on pallets for ease of transportation. Standard pallet dimensions: (80 x 120) cm and (100 x 120) cm. Packages weighing up to 800 kg should be placed on 1 pallet and the height of the palletized load should be maximum 140 cm.

(80 x 120) cm Wooden Pallet:



(100 x 120) cm Wooden Pallet:

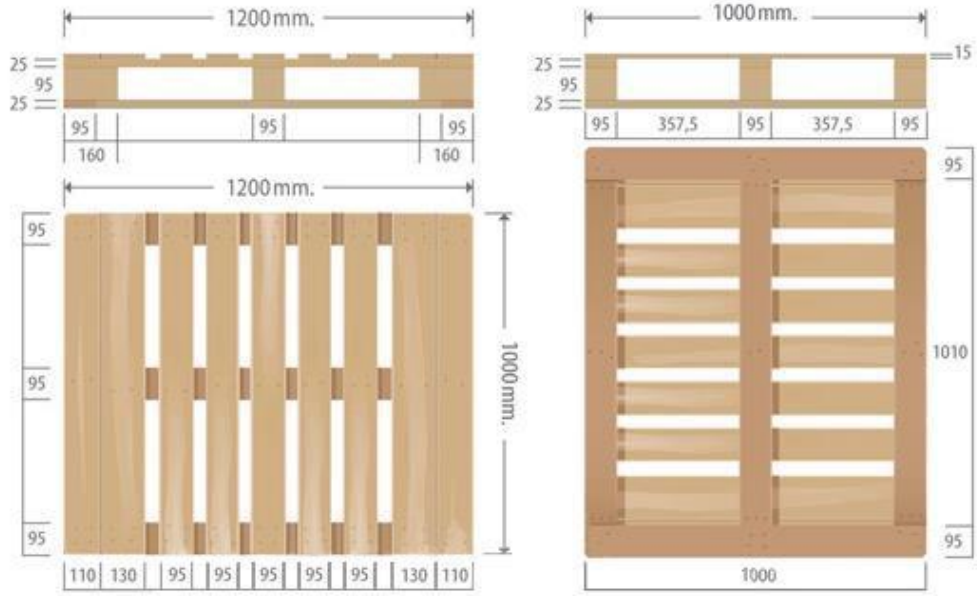
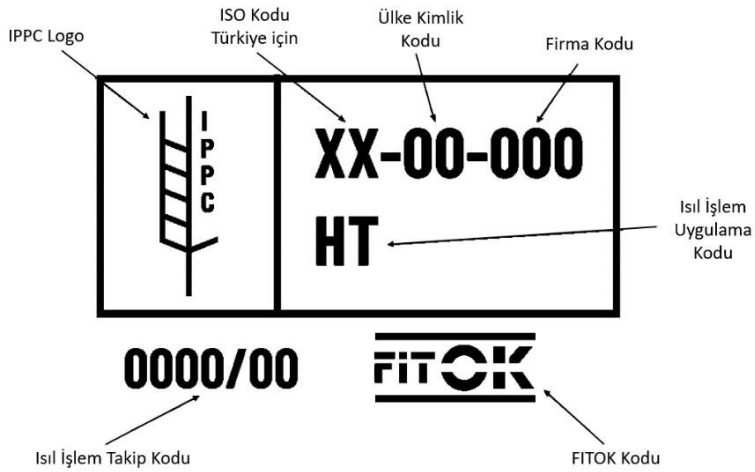


Figure 28- Various crates used for outer packing

According to the standards determined by IPPC in export transactions, all kinds of crates, crates, pallets used as wooden packing materials must be heat treated according to ISPM15 standards. Accordingly, in product shipments to be sent to ASELSAN or on behalf of ASELSAN, it is expected to use Euro type or Industrial type, heat treated wooden pallets with markings (Figure-29) indicating that they comply with the ISPM15 standard for export.
The markings to be used on the wooden pallet must be legible, indelible, immovable and durable. Burning or stamping method should be used and should not be scratched by hand. When the wooden pallet is in use, the markings must be in a visible place and on at least two opposite sides of the wooden pallet containing the information in Figure-29.

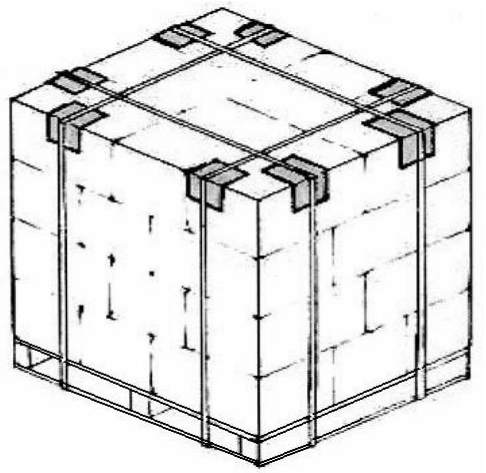
Figure-29: Markings on Wooden Pallets



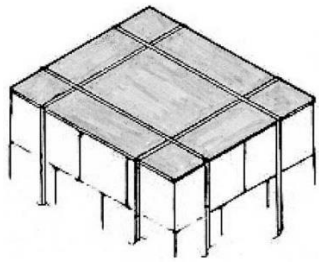
4.2.6.4. Strips

In order to prevent the packages from spilling over the pallet, they are tied tightly with plastic or metal strips. The precautions shown in Figure 30 are taken to prevent the strips from damaging the packing boxes and to protect the packing.

a. Reinforcing the edges where the strips pass



b. Placing plywood over the boxes



c. Placing lids on the boxes

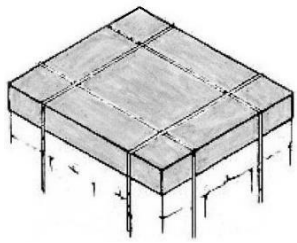


Figure-30: Preventing damage to the packing by strips and protecting the packing

4.2.6.5. L Cardboard Angle Bracket

It should be used in rectangular, square, cylindrical packing to prevent damage to the edges and corners of the products.
Protects palletized products against impacts during transportation.
It is used in the corners of the package to increase the resistance of the package when the products placed in the cardboard box are stacked on top of each other.
L cardboard gusset should be used as shown in Figure-29 to increase the stacking and transportation resistance of packaged products.

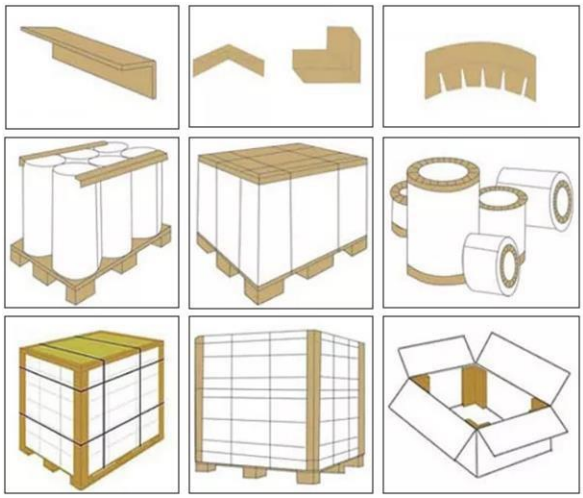


Figure-31: Use of the L Cardboard Angle Bracket

4.2.6.6. Load Transport Safety

The supplier company is responsible for correctly identifying the cargo, specifying the weight of the cargo, and safely transferring the contents of the transport units during transportation.

If the cargo contains hazardous materials, it must be ensured that the packing is made in accordance with the transportation standards and that the necessary labelling and warning markings are used on the package. For hazardous material packing and shipping details, please refer to ***4.2.4. Hazardous Material Packing*** section of this document.

The front and rear walls of the vehicle used must have a certain strength according to the weight of the cargo to be transported. Accordingly, the front wall of the vehicle must be strong enough to carry 40% of the load and the rear wall must be strong enough to carry 25% of the load.

The load should be placed in such a way that it will not slide to the right, left, front and rear in vehicle acceleration, sudden braking, manoeuvring, inclined roads and wind movements. In this direction, the following points should be considered.

- Balanced placement of the load inside the vehicle,
- Filling empty volumes by blocking the empty sides of the cargo in the vehicle,
- Use of fasteners according to the weight and size of the load,
- Use of lashing eyebolts in accordance with their carrying capacity.

4.2.6.6.1. Balanced Placement of the Load Inside the Vehicle

Subcontractor companies that ship cargo must place the cargo in the vehicle/container in a balanced manner and prevent movement with elements such as airbags/wood pallets. If requested by ASELSAN, the supplier must take photographs of the cargo being made ready for shipment in a safe manner as shown in Figure-32 and share them.

Figure-32: Secure Cargo Transportation

Loads placed inside the vehicle should be provided by creating height differences so that they keep each other stable as shown in Figure-33. If the loads are of the same dimensions, wooden slats should be placed on the front and rear surfaces of the load.

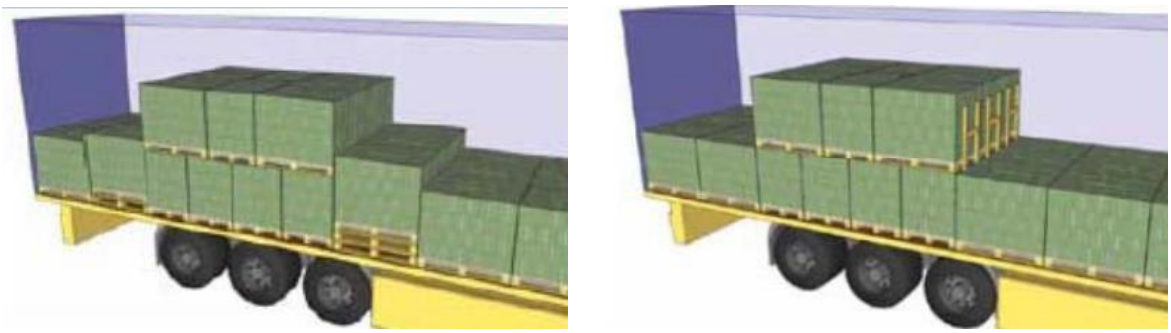


Figure-33: Balanced Layout Inside the Vehicle

4.2.6.6.2. Blocking / Filling Empty Volumes

To fill empty spaces inside the vehicle, stabilizers such as airbags or wooden pallets as shown in Figure-34 should be used.

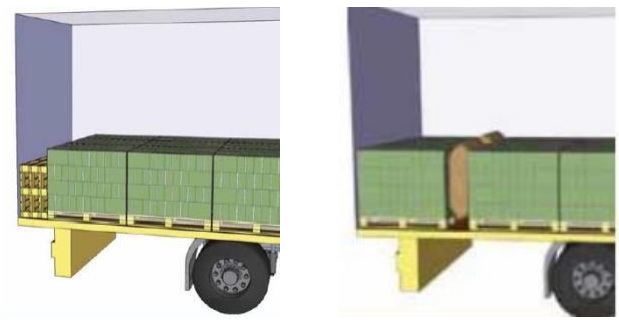


Figure-34: Load Blocking

In case of in-container cargo placement, airbags or wooden pallets should be used as in Figure 35, similar to in-vehicle placement.

Figure-35: In-Container Load Blocking:

4.2.6.6.3. Use of Fasteners

In shipments where balanced placement is not possible, Spanzet, Steel Chain and other fixing elements should be used as in Figure-36 to fix the loads to the vehicle and prevent possible work accidents, while mat should be used to prevent the load from slipping from the ground.

Figure-36: Use of Fasteners

When using the Spanzet, the tensioning apparatus should be used to ensure that the tensioning force is made to the desired extent. Spanzet should not be overstretched beyond its capacity.

Figure-37: Using Fastening Elements

The label must have the load limit, type of weaving material, length, manufacturer's name, symbol and the number of the standard to which it belongs.

The information on the label must not be erased and illegible as shown in Figure-38. Spanzet should never be used in a knotted manner.

Figure-38: Spanzet not to be used

Spanzet should be visually inspected before use and should not be used if there are any holes, tears, flame exposure or abrasion (if exposed to a chemical substance) on it as shown in Figure-39. Other fasteners used such as eyebolts, hooks etc. must not be damaged.

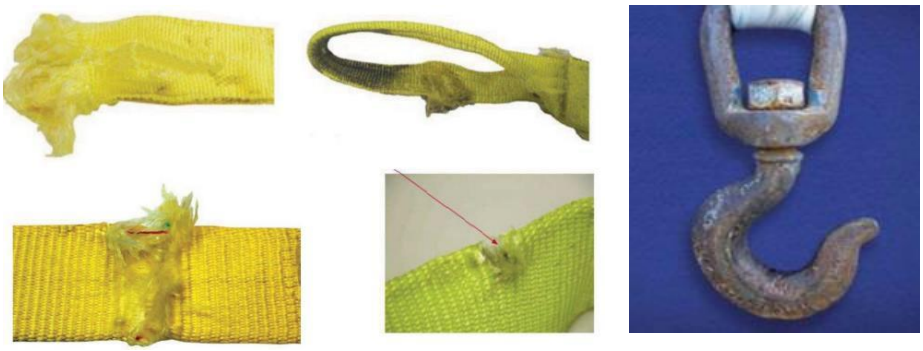


Figure-39: Damaged Fastening Components