

Gasunie Technical Standard

Material Specification General

MSA-25-E

Transport, packing and marking

Version 8 *17-10-2019*

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Intern/Internal

FOREWORD

This specification supersedes the seventh version of MSA-25-E.

With respect to the former version the following has been changed:

- Clause 1:
 - The text is shortened; non-essential items have been deleted.
- Clause 2:
 - "EN-ISO 445" has been changed to "NEN-EN-ISO 445" and a footnote 1 has been added.
- Clause 4:
 - "EN ISO 445" has been changed to "NEN-EN-ISO 445"
 - subclause 4.2, last paragraph: Caps are only allowed to be stacked when a strong protective layer is used in between of the stacked layers.
 - subclause 4.3, fourth paragraph: the text "Unless otherwise specified in the Gasunie purchase order" and the "indication of case contents" have been deleted.
- Annex A:
 - Added: "Heat exchangers" and "Fittings \geq DN 650";
 - Added: "Maximum weight of a pallet is 3 500 kg";
 - Added: "Packing-method allows +1 year of outdoor storage";
 - Deleted: "Delivered on a separate pallet".

Alterations are marked with a left margin line.

[MSA-23-N](#) describes the requirements according to handling, storage and quality assurance of materials.

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1. SCOPE AND APPLICATION

This specification describes the requirements for the transport, packing, protection and marking of materials and equipment.

This specification shall be used by Gasunie and its nominated contractors and suppliers.

1.1 Transport media

Table 1 indicates the transport media for which this specification is applicable.

Table 1: Transport media

Transport medium ¹	Natural gas	Hydrogen	Carbon dioxide	Nitrogen	(Hot) water	Ammonia
	Applicable	Not judged ²				

- The table is based on suitability of the transport medium concerned. The scope and media for which this specification is suitable are not automatically the same as the scope and media of underlying specifications. The scope and suitability for a medium are described for each specification.
- Suitability shall be determined on the basis of an impact analysis. The requirements that do appear to be applicable shall be observed.

2. REFERENCES

This specification makes prescriptive reference to the documents mentioned in this clause.

2.1 Standards

This specification refers to the standards mentioned in this subclause. Any supplements and errata notices are also applicable.

The following applies to all NEN-EN standards: Depending on the country where the standard will be applied, DIN-EN or BS-EN, for example, shall be chosen.

NEN-EN-ISO 445	Pallets for materials handling – Vocabulary.
ISO 3394	Packaging - Complete, filled transport packages and unit loads - Dimensions of rigid rectangular packages.

2.2 Legislation

This specification refers to the following Legislation:

"Wet wegvervoer goederen" (Dutch Law road transport goods)

2.3 Other references

This specification refers to the following documents:

ADR	European agreement concerning international road transport of dangerous goods.
IMO	General conditions of IMO
IATA	General conditions of IATA

3. DEFINITIONS AND ABBREVIATIONS

In this specification the following definitions and abbreviations are applicable:

3.1 Definitions

Transport medium A gaseous or liquefied substance that is transported by and/or stored in a Gasunie transport network; limited to:

- natural gas;
- hydrogen;
- carbon dioxide;
- nitrogen;
- (hot) water;
- ammonia.

Additives and other substances used in the medium or in the processes are therefore expressly outside the scope.

3.2 Abbreviations

ADR	Accord européen relatif au transport international des marchandises Dangereuses par Route
IATA	International Air Transport Association
IMO	International Maritime Organization
PO	Purchase Order

4. TRANSPORT, PACKING AND MARKING INSTRUCTIONS

Regarding packing and handling of materials the following standards are applicable:

- NEN-EN-ISO 445;
- ISO 3394.

Regarding transport the following standards/Legislation are applicable:

- general: "Wet wegvervoer goederen" (Dutch Law road transport goods);
- dangerous goods:
 - road transport: ADR;
 - sea transport: IMO;
 - air transport: IATA.

4.1 Packing list(s)

Packing list(s) shall be included in every shipment to be send to a Gasunie location.

Packing list(s) shall show:

- destination;
- location of origin;
- Gasunie Purchase Order number & position;
- Gasunie article number;
- item description, quantities and units as shown on the purchase order;
- the number of packages by type (for example: five cases, three crates, six bundles, two unpacked pieces) and total number of packages;
- gross and net weight in kilos, per package.

4.2 Packing instructions

The following packing instructions shall be taken into account:

- Packages of ten tons or more shall be marked with slinging points and also clearly show on both sides the centre of gravity.
- Machined or threaded surfaces and all moving internal parts of machinery shall be coated with an easily removable rust preventive.
- Pressure vessels shall be mounted on suitable saddles. For cylindrical vessels these saddles shall be accurately shaped to match the diameter of the vessel and shall contact the shell over an arc of 120°. They shall be attached to the vessel by metal straps or similar means, but not welded.
- All manholes, nozzles and similar openings shall be covered by plastic end caps or plugs, using suitable gasket material to ensure a watertight joint. Additionally, the edges of all joints are to be sealed with waterproof tape.
- Structural bolts and nuts shall not be shipped in wooden kegs. Block insulation shall be packed in a wooden case or cardboard box.
- Items shall not be exposed to rain, condensation, high humidity, high temperature and fine dust.
- Surfaces that are subject to corrosion shall be treated with an appropriate protective compound.

- Goods to be sealed off from the atmosphere shall be packed in moisture-vapour-proof sealed enclosures with a suitable desiccant.
- Caps are only allowed to be stacked when a strong protective layer is used in between of the stacked layers.

4.3 Marking instructions

All cases, packages and boxes shall be marked as indicated below.

Gasunie purchase order number	PO
Gasunie article number
Tag number (if applicable)
Supplier's item number
Gross weight (kg)

On bundles the markings shall be embossed on a metal or similar tag and securely strapped on. Paint shall be used on metal surfaces.

MARK TWO ADJACENT SIDES OF EACH PACKAGE IN CLEAR CHARACTERS.

No advertising may appear on the packages.

Unless otherwise specified in the Gasunie purchase order, all items shall be sent to:

N.V. Nederlandse Gasunie
Centraal Magazijn Deventer
Lübeckstraat 1
7418 EK DEVENTER
Netherlands
Tel. : +31 570 68 03 00
Fax : + 31 570 62 10 57
Email : cmdeventer@gasunie.nl

ANNEX

A TRANSPORT, PACKING AND HANDLING MATERIALS

Transport, packing and handling materials	Actuators	Valves	Concrete fortified pipes	Pressure vessels	Electronics	Isolation couplings	Heat exchangers	Fittings < DN 150	Fittings DN 150 – DN 650	Fittings ≥ DN 650	Flanges	Gas chromatographs	Gas meters	Gaskets and O-rings	Gaskets and O-rings (seals/elastomer)	Gaskets and O-rings (rubber, components)	Pipes < DN 40 and < 6 metre	Pipes ≥ DN 40 and ≥ 6 metre	Regulating valves	Rotating equipment	Skids (gas delivery stations)	
Packing in wooden crates is not allowed, only pallets						X		X	X	X												
Skid/pallet shall be fixed in trailer during transport						X	X	X	X	X			X									
Material shall be fixed on a skid/pallet using a minimum of 2 straps (both sides)						X	X	X	X	X			X									
Shock-absorbing skid/pallet shall be used													X									
Material shall be skidded/palletised	X	X		X		X	X	X	X	X	X	X	X									
Maximum weight of a pallet is 3 500 kg										X												
Only one kind of article number allowed on a pallet/skid	X	X				X	X	X	X	X	X											
Item shall be secured to wooden box													X									
Item shall be packed dust free														X	X	X						
Not allowed to be stacked (except caps)						X	X		X	X												
When stacked, layers shall be divided by cardboard, hard plastic sheets or wood								X														
Protected against rain and sun						X																
Both pipe ends shall be supported						X																
Separate fixed on a pallet						X			X	X												
Fixed on the pallet in such a way that slippage is prevented						X	X	X	X	X												
Overhang of material on skid/pallet/box is not permitted	X	X		X		X	X	X			X	X	X						X	X	X	
Packing shall be anti static					X				X	X												
Don't bind stainless steel material with steel bands						X	X	X			X						X	X				
Place materials on pallets so that water can't remain												X										
Use red or contrasting paint to mark lifting points and lateral/vertical centres of gravity		X										X					X	X				X
Material shall be marked with Shockwatch label												X										
Packing-method allows +1 year of outdoor storage										X												