SENSE Sensors & Instruments is now part of TE connectivity

MATERIAL IDENTIFICATION FOR PACKAGING ITEMS

Used by Sense Sensors and Instruments

Index

1 - INTRODUCTION

1.1. Purpose:

This manual aims to provide detailed guidelines and procedures to ensure that all packaging used by **Sense/TE** is in full compliance with Regulation (EU) 2025/40 on packaging and packaging waste (hereinafter referred to as "the Regulation"). It addresses crucial aspects such as material selection, packaging size optimization, and the correct disposal process.

1.2. Scope:

This manual applies to all packaging of products manufactured, imported, distributed, or marketed by **Sense/TE** in the European Union market. It covers primary, secondary, and tertiary packaging, as well as all packaging materials used.

1.3. Responsibilities:

- **Research and Development (R&D) Department:** Responsible for the evaluation and selection of packaging materials and for design optimization.
- **Production Department:** Responsible for the implementation of packaging specifications and for minimizing waste in the process.
- **Shipping Department:** Responsible for the proper handling and storage of packaging.
- **Marketing and Sales Department:** Responsible for clear communication about the correct disposal of packaging to consumers and for the management of this manual.
- **Quality Department:** Responsible for ensuring compliance with the Regulation.
- **All Employees:** All employees are responsible for following the procedures described in this manual and reporting any non-conformities.

1.4. References:

- Regulation (EU) 2025/40 of the European Parliament and of the Council of 19 December 2024 on packaging and packaging waste.
- Relevant Harmonised Standards published in the Official Journal of the European Union.
- National legislation of the EU Member States
- Commission Decision 97/129/EC establishing the identification system for packaging materials.

2 - PACKAGING MATERIAL SELECTION

2.1. Selection Criteria:

The selection of packaging materials by **Sense/TE** considers the following priority criteria:

- **Legal Compliance:** Compliance with the requirements of Regulation (EU) 2025/40, including the minimization of hazardous substances.
- **Sustainability:** Preference for recycled, recyclable, reusable, or materials from renewable and sustainably managed sources.
- **Functionality:** Ensuring the protection, preservation, and safety of the packaged product throughout its life cycle.
- **Environmental Impact:** Assessment of the life cycle of materials, considering the carbon footprint, energy consumption, and waste generation.
- **Cost-Effectiveness:** Seeking economically viable solutions that meet the other criteria.

2.2. Preferred Materials

Sense/TE prioritizes the use of the following materials, when technically feasible and economically reasonable:

- **Paper and Cardboard:** Preferably recycled and with sustainable forest management certification (e.g., FSC, PEFC).
- **Plastics:** Prioritize single-material plastics (PET, HDPE, PP) with a high rate of recyclability and/or recycled content. Avoid multi-layer plastics or those with additives that hinder recycling, whenever possible.
- **Glass:** If using this type of packaging, preferably use glass with a high content of recycled material.
- **Metals:** When employing this material, opt for alloys designed for easier recycling.
- **Wood:** For wood packaging such as pallets and transport boxes, use only certified materials in accordance with phytosanitary regulations to prevent the spread of pests and diseases.
- **Bioplastics and Compostable Materials:** Evaluate the use of bioplastics and compostable materials with recognized certifications, considering the complete life cycle and the existing disposal infrastructure.

2.3. Hazardous Substances

Sense/TE ensures that the packaging materials used contain the minimum possible amount of hazardous substances, complying with the limits established in the Regulation and other relevant legislation (e.g., REACH). We require declarations from our suppliers and conduct tests when necessary.

3 - PACKAGING SIZE OPTIMIZATION

3.1. Optimization Principles

Sense/TE adopts the following principles to optimize packaging size:

- **Product-Appropriate Size:** The packaging must be sized to contain the product safely and efficiently, avoiding unnecessary empty spaces.
- **Material Reduction:** Minimize the amount of material used without compromising product protection or consumer acceptance.
- **Optimization for Transport and Storage:** Consider the ideal dimensions for palletization, loading, and storage, aiming to reduce logistics costs and the environmental impact of transport.

3.2. Optimization Process

- **Product Analysis:** Evaluate the dimensions, weight, and fragility of the product to determine the minimum packaging requirements.
- **Evaluation of Different Formats:** Consider different packaging formats and designs that can reduce volume and material used.
- **Packaging Tests:** Conduct integrity and transport tests to ensure that the optimized packaging adequately protects the product.
- **Customer Feedback:** Consider customer feedback on the practicality and size of packaging.
- **Use of Optimization Software:** When applicable, use packaging design and optimization software to identify the most efficient solutions.

3.3. Participation in Extended Producer Responsibility (EPR) Systems:

Sense/TE fulfills its obligations related to Extended Producer Responsibility by adhering to approved EPR systems in the Member States.

4. PROCESS FOR THE CORRECT DISPOSAL OF PACKAGING

4.1. Disposal Labeling

All packaging of **Sense/TE** is clearly and unequivocally labeled to assist consumers in correct disposal, in accordance with Decision 97/129/EC and other relevant guidelines. The labeling includes:

- **Material Identification:** Use of material identification symbols (e.g., PET, PE, PP, Paper, Glass, Aluminum).
- **Disposal Instructions:** Providing clear information on how to dispose of each packaging component (e.g., "Plastic - Recycling," "Paper - Selective Collection").
- **Sustainability Symbols:** Use of recognized symbols that indicate the recyclability or other environmental characteristics of the packaging (with caution to avoid greenwashing).

4.2. Consumer Information

Sense/TE is committed to providing additional information to consumers about the correct disposal of packaging through various channels:

- **Website:** Dedicated section with information on sustainability and packaging disposal.
- **Marketing Materials:** Inclusion of disposal information on labels, secondary packaging, and promotional materials.
- **Customer Service Channels:** Training of the service team to answer questions about packaging disposal.

4.3. Participation in Selective Collection Systems

Sense/TE supports and participates in selective collection systems implemented in the markets where its products are sold, through adherence to EPR systems.

4.4. Internal Disposal Guidelines

Internally, **Sense/TE** implements a system for the proper separation and disposal of packaging waste generated at its facilities, ensuring routing to recycling or other forms of recovery.

5. INTERNAL PROCESSES AND PROCEDURES

5.1. Supplier Selection:

The selection of packaging material suppliers is based on criteria that include compliance with the requirements of the Regulation and the sustainability standards of **Sense/TE**. Declarations of conformity are requested and, when necessary, supplier audits are conducted.

5.2. Packaging Specifications:

For each type of packaging used, detailed technical specifications are maintained, including materials, dimensions, weight, labeling requirements, and recyclability criteria. These specifications are reviewed periodically.

5.3. Quality Control:

Quality control procedures are implemented to verify that the packaging received and used meets the specifications and the requirements of the Regulation. This includes visual inspections, dimensional checks, and performance tests.

5.4. Registration and Traceability:

A registration system is maintained to track information about the packaging materials used, their suppliers, and the dates of receipt. This allows for the rapid identification and resolution of any non-compliance issues.

5.5. Non-Compliance Management:

Any non-compliance related to packaging is documented, investigated, and corrected in accordance with the internal procedures of **Sense/TE**. Corrective and preventive actions are implemented to prevent recurrence.

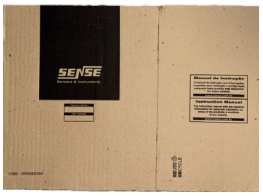
6 - TRAINING AND AWARENESS

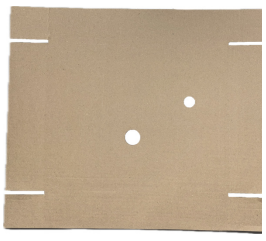
- All employees involved in packaging processes receive adequate training on the requirements of Regulation (EU) 2025/40 and the procedures described in this manual.
- Internal awareness actions are carried out to promote more sustainable packaging practices and the importance of compliance with legislation.

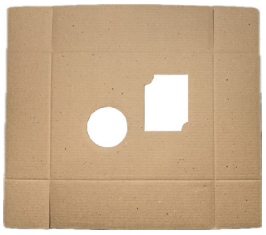
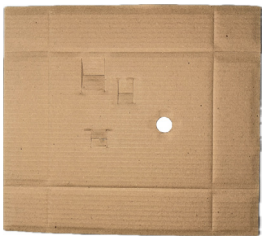
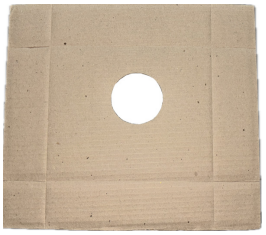
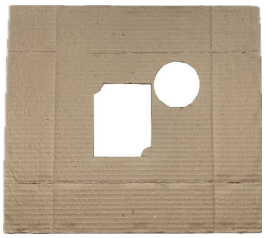
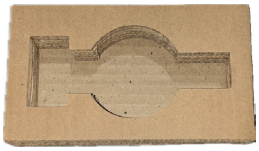
7 - AUDITS AND REVIEWS

Periodic internal audits will be conducted to verify the implementation and effectiveness of this manual and compliance with the Regulation. This manual will be reviewed and updated annually or whenever there are significant changes in legislation, standards, or internal processes of **Sense/TE**.

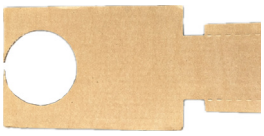
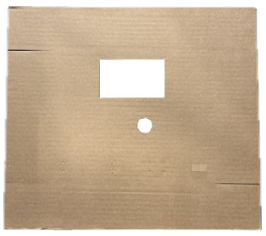
8 - MATERIAL IDENTIFICATION

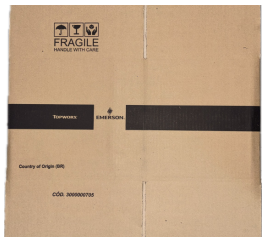
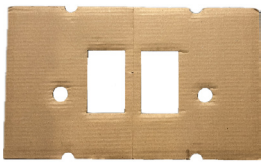
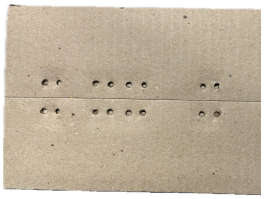
Packaging Item	Example images	Packaging Material	Possible Packaging Material Colors	Labeling Environmental
Packing Box for Moniteur		Corrugated board	Brown	20 PAP
Packing Box for KF 5/15 Power Supply		Corrugated board	Brown	20 PAP
Packing Box for KD-DN		Paperboard/solid board	Brown	21 PAP
Plastic Bag 9x11cm Zip-Lock		Low Density Polyethylene	Transparent	4 LDPE
Low Wave Cardboard Box 150x150x75 mm With Logo		Paperboard/solid board	Brown	21 PAP
Low Wave Cardboard Box 215x150x75 mm With Logo		Paperboard/solid board	Brown	21 PAP
Low Wave Cardboard Box 270x190x110 mm With Logo		Corrugated board	Brown	20 PAP

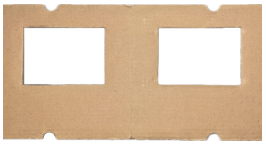
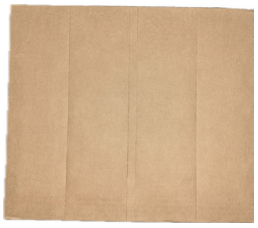
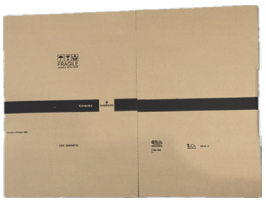
Packaging Item	Example images	Packaging Material	Possible Packaging Material Colors	Labeling Environmental
Plastic Bag 20x18cm Zip-Lock		Low Density Polyethylene	Transparent	4 LDPE
Cardboard Box 380x350x170 mm		Corrugated board	Brown	20 PAP
Corrugated Cardboard Box 580x380x350 mm		Corrugated board	Brown	20 PAP
I-VUE Sensor Packaging Box - Sense		Corrugated board	White / Brown	20 PAP
I-VUE Sensor Packaging Box - Saunders		Corrugated board	White / Brown	20 PAP
Positioner Packaging Box		Corrugated board	Brown	20 PAP
Lower Cradle for Ex Positioner Packaging Box		Corrugated board	Brown	20 PAP

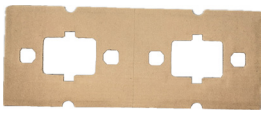
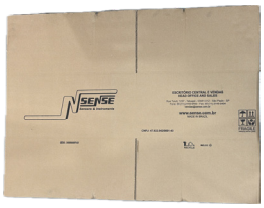
Packaging Item	Example images	Packaging Material	Possible Packaging Material Colors	Labeling Environmental
Upper Cradle for Ex Positioner Packaging Box		Corrugated board	Brown	
Converter / Positioner Packaging Box		Corrugated board	Brown	
Lower Cradle for Ex Converter / Positioner Packaging Box		Corrugated board	Brown	
Upper Cradle for Converter Packaging Box		Corrugated board	Brown	
Upper Cradle for Positioner Packaging Box		Corrugated board	Brown	
Lower Cradle for I-VUE Packaging Box		Corrugated board	Brown	
Upper Cradle for I-VUE Packaging Box		Corrugated board	Brown	

Packaging Item	Example images	Packaging Material	Possible Packaging Material Colors	Labeling Environmental
M-VUE Sensor Packaging Box - Saunders		Corrugated board	White / Brown	20 PAP
Lower Cradle for Ex Converter / Positioner Packaging Box		Corrugated board	Brown	20 PAP
Upper Cradle for Ex Converter / Positioner Packaging Box		Corrugated board	Brown	20 PAP
M-VUE Solenoid Packaging Box		Corrugated board	Brown	20 PAP
M-VUE Activator Packaging Box		Corrugated board	Brown	20 PAP
Lower Cradle for TTS501 Packaging Box		Corrugated board	Brown	20 PAP
Upper Cradle for TTS501 Packaging Box		Corrugated board	Brown	20 PAP

Packaging Item	Example images	Packaging Material	Possible Packaging Material Colors	Labeling Environmental
Cradle for TTS501 Mounting Bracket Packaging Box		Corrugated board	Brown	20 PAP
TTS501 Temperature Transmitter Packaging Box		Corrugated board	Brown	20 PAP
M-VUE Sensor Packaging Box - Sense		Corrugated board	Brown / White	20 PAP
MRP Plastic Bag 20x40 cm (Vacuum Packaging for PCB)		Low Density Polyethylene	Transparent	4 LDPE
Upper Cradle for PDE Packaging Box		Corrugated board	Brown	20 PAP
Lower Cradle for PDE Packaging Box		Corrugated board	Brown	20 PAP
KMV Packaging Box with Lock 130x74x43 mm		Corrugated board	Brown	21 PAP

Packaging Item	Example images	Packaging Material	Possible Packaging Material Colors	Labeling Environmental
Packaging Box PD Topworks		Corrugated board	Brown	20 PAP
Packaging Box 320x220x250 mm		Corrugated board	Brown	20 PAP
Cushioned coil 10x20x300 meters		High Density Polyethylene	Transparent gray	2 HDPE
PD Lower Inner Packaging 424x257 mm		Corrugated board	Brown	20 PAP
PD Medium Packaging 110x470 mm		Corrugated board	Brown	20 PAP
PD Medium Packaging 150x267 mm		Corrugated board	Brown	20 PAP
PD Upper Inner A Packaging 514x212 mm		Corrugated board	Brown	20 PAP

Packaging Item	Example images	Packaging Material	Possible Packaging Material Colors	Labeling Environmental
PD Upper Inner B Packaging 514x212 mm		Corrugated board	Brown	
PD Medium Packaging 310x267 mm		Corrugated board	Brown	
PD Collective Packaging Box Topworks		Corrugated board	Brown	
PD Accessories Packaging Box Topworks		Paperboard/solid board	Brown	
M4.Smart Packaging Box		Paperboard/solid board	Brown	
M4.Smart Collective Packaging Box		Corrugated board	Brown	
M4.Smart Inner A Packaging Box		Corrugated board	Brown	

Packaging Item	Example images	Packaging Material	Possible Packaging Material Colors	Labeling Environmental
M4.Smart Inner B Packaging Box		Corrugated board	Brown	20 PAP
M4.Smart Inner C Packaging Box		Corrugated board	Brown	20 PAP
M4.Smart Inner D Packaging Box		Corrugated board	Brown	20 PAP
Low wave cardboard box 215x150x75 mm Topworks		Corrugated board	Brown	20 PAP
Moniteur Collective Packaging Box 565x485x247 mm		Corrugated board	Brown	20 PAP
Pentakon Sensor Packaging Box		Paperboard/solid board	Brown	21 PAP
KMV-SB18 Packaging Box		Paperboard/solid board	Brown	21 PAP

Packaging Item	Example images	Packaging Material	Possible Packaging Material Colors	Labeling Environmental
Tall Packaging Box for Sensor		Paperboard/solid board	Brown	
Low Packaging Box for Sensor		Paperboard/solid board	Brown	
M and F1 Sensors Packaging Box		Paperboard/solid board	Brown	
VF and D1 Sensors Packaging Box		Paperboard/solid board	Brown	
EKF Eurocard Packaging Box		Paperboard/solid board	Brown	
KD and KD Plug-in Packaging Box		Paperboard/solid board	Brown	
Corrugated Cardboard Box 210x130x130 mm		Corrugated board	Brown	

Packaging Item	Example images	Packaging Material	Possible Packaging Material Colors	Labeling Environmental
Corrugated Cardboard Box 230x230x140 mm		Corrugated board	Brown	
Corrugated Cardboard Box 580x380x170 mm		Corrugated board	Brown	
Corrugated Cardboard Box 111540xx140 mm		Corrugated board	Brown	

About TE

For more than 80 years, TE engineers and product specialists have partnered with customers to advance innovation in industrial technologies. Together, we develop highly engineered connectivity and sensing solutions that make a connected world possible. At TE, our focus on solving for reliability, durability, and sustainability exemplifies our commitment to progress. The unmatched range of our product portfolio enables companies large and small to turn their conceptual ideas into ground-breaking technologies that can transform how the world connects, works, and lives.

Connect With Us

We make it easy to connect with our experts and are ready to provide all the support you need. Visit **sense.com.br** to chat with a Product Information Specialist.

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