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(54) **METHOD AND DEVICE FOR PACKAGING PACKAGED GOODS**

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(57) **ABSTRACT**

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A method involves packaging packaged goods in a packaging material, which surrounds the packaged goods at least partially, the packaging material being unwound from a reel having at least one readable data memory for material data. The material data is read from the data memory and processed, and at least one of the two following actions is performed: A) regulating the packaging process as a function of the material data and B) creating a product pass based on the material data. The method reduces the possibility of operating errors when packaging packaged goods with packaging material. The packaging process is more transparent due to the method, and can be tracked and/or reconstructed even at a later time.

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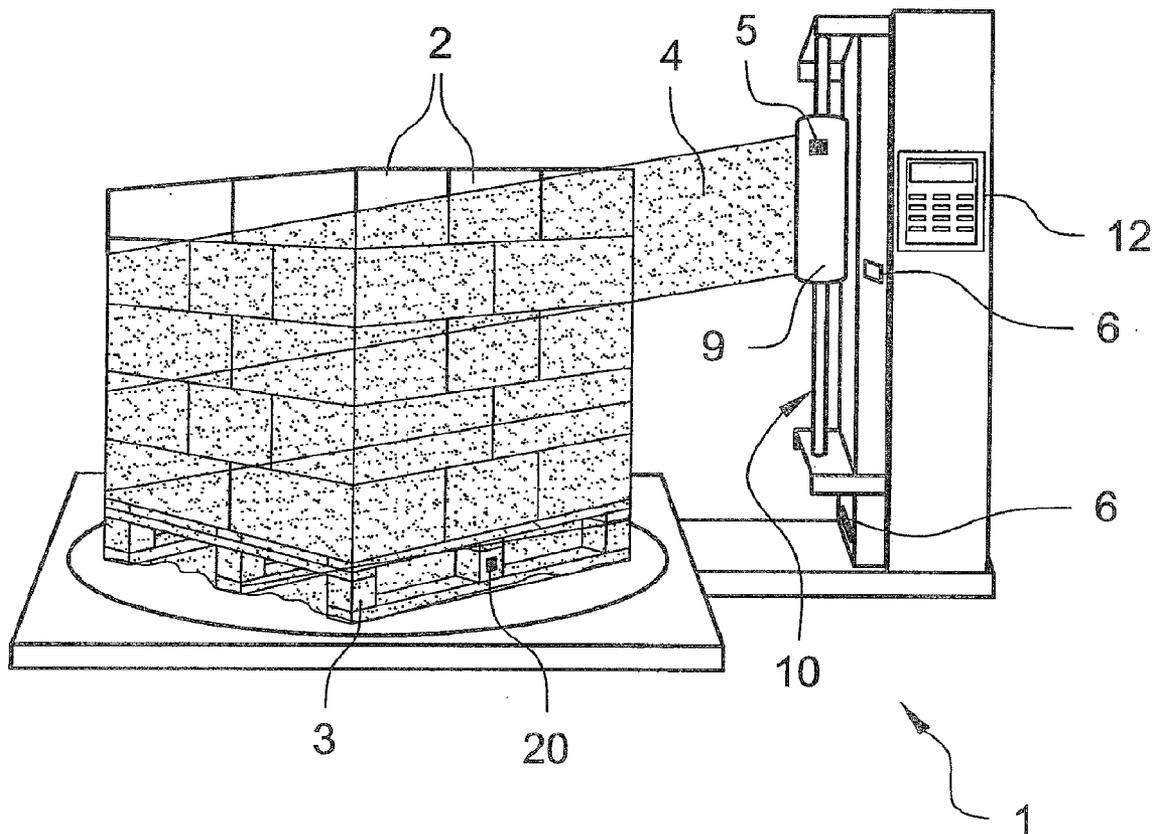


FIG. 1

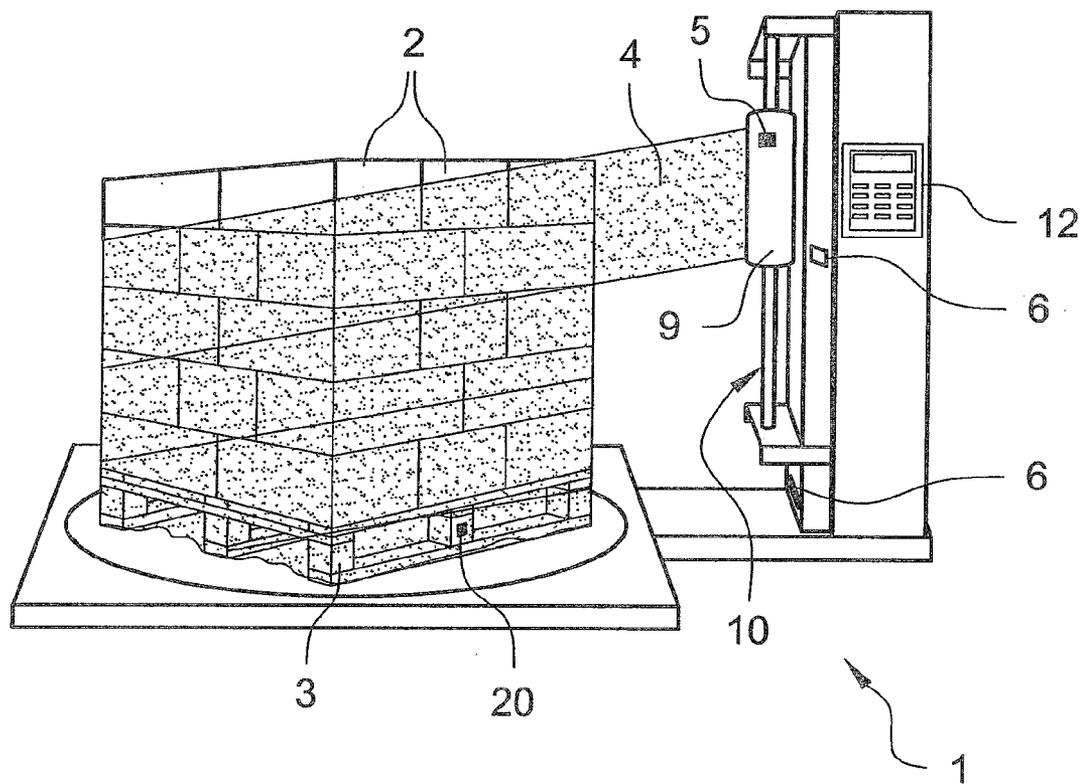


FIG. 2

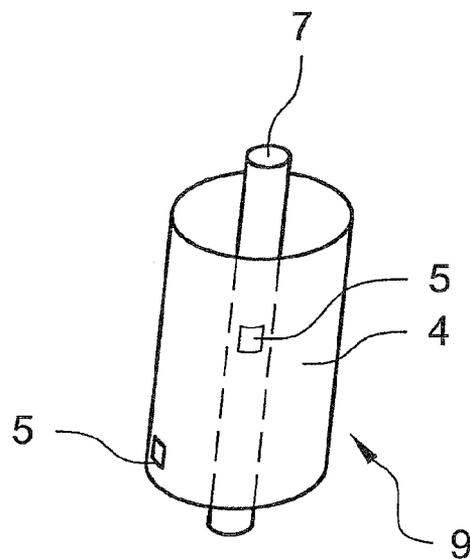


FIG. 3

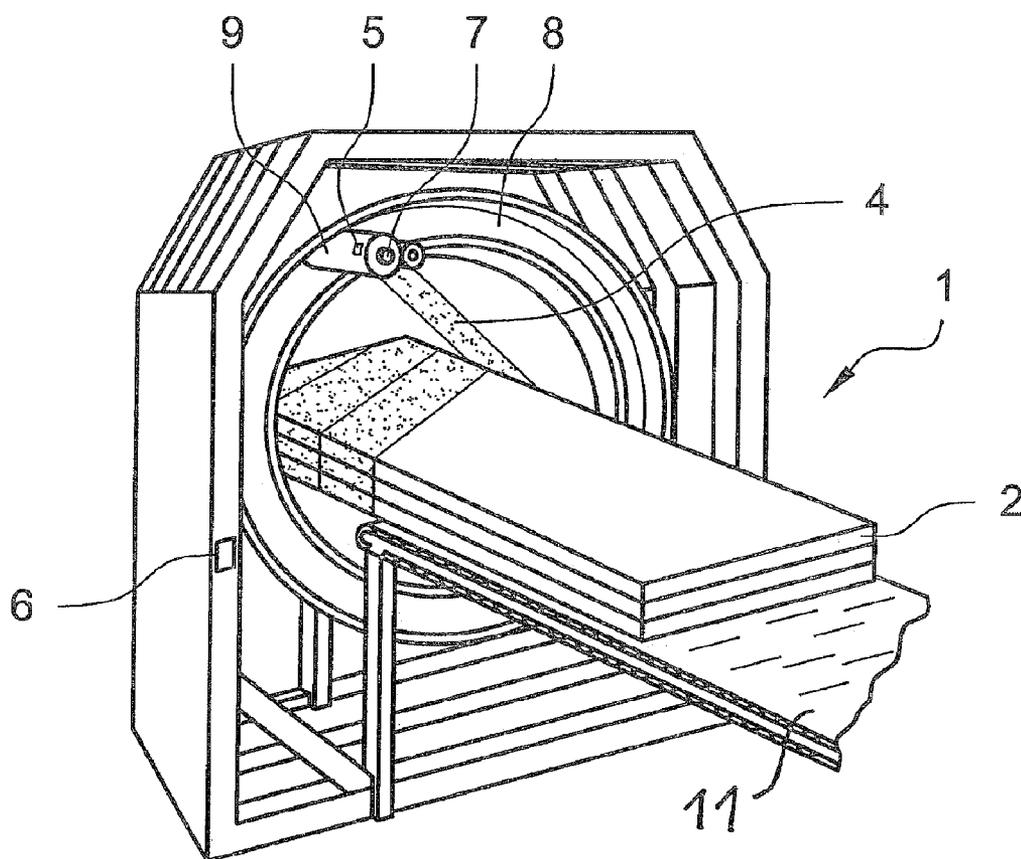
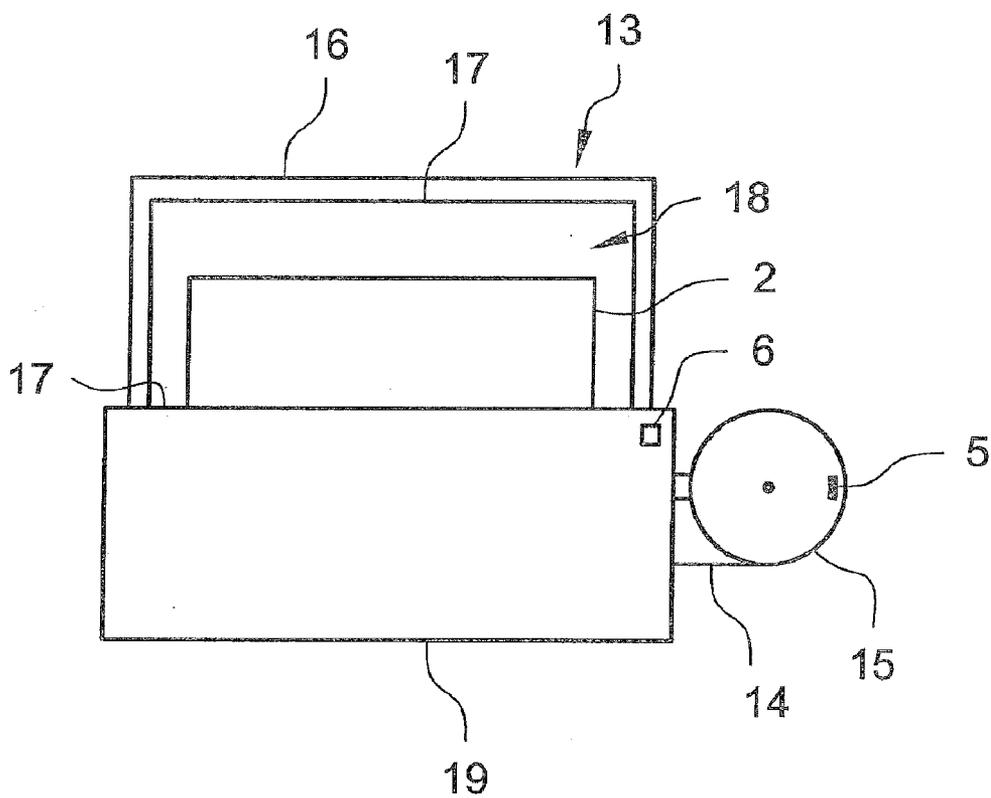


FIG. 4



METHOD AND DEVICE FOR PACKAGING PACKAGED GOODS

CROSS REFERENCE TO RELATED APPLICATIONS

[0001] This Patent Application is a Continuation of International Patent Application No. PCT/EP2008/059275 filed on Jul. 16, 2008, entitled, "METHOD AND DEVICE FOR PACKAGING PACKAGED GOODS", the contents and teachings of which are hereby incorporated by reference in their entirety.

FIELD OF THE INVENTION

[0002] Certain embodiments of the present invention are directed a method for packaging packaged goods, and a device for carrying out the method. In particular, the packaged goods may be stretched or strapped. When stretching packaged goods the same are wrapped in stretchable film (also called stretch film).

BACKGROUND

[0003] Conventional goods are often packaged and shipped on pallets, particularly for the transport of goods, being shipped particularly in containers, trucks, transporters, railway cars, airplanes, and/or ships. In order to ensure that the goods are secure from any damages arising from transport, and to enable a good movability of the pallets the transport goods are often secured by means of stretch film, or strapped. Depending on the type of transport goods, a different packaging material may need to be utilized. Any operating errors, such as the use of the wrong packaging material, may lead to accidents or damages to the transport goods during transit. Should damage occur, it is often impossible to verify the reasons for the damage, such as the wrong selection of stretch film, which is, for example, not suited for the stresses incurred during flight, or even the wrong parameters during the packaging process. For this purpose it is often difficult to trace what ultimately led to the respective damage.

SUMMARY

[0004] Certain embodiments of the invention are based on the object of at least alleviating some of the disadvantages of above-described conventional approaches, and particularly to ensure that the effects of operating errors by means of operating personnel are reduced as much as possible in the packaging of packaged goods.

[0005] Some of the deficiencies are solved by means of a method and a device.

[0006] One embodiment is directed to a method for packaging packaged goods in a packaging material, which surrounds the packaged goods at least partially, the packaging material being unwound from a reel having at least one readable data memory for material data is such that the material data is read from the data memory and processed, wherein at least one of the two following actions is performed:

[0007] A) regulating the packaging process as a function of the material data, and

[0008] B) creating a product pass based on the material data.

[0009] In particular, packaged goods means a singular or plurality of packaged objects, particularly ones that are further packaged, such as in boxes. An at least readable data memory is particularly a data memory, from which data can

be read, and into which data may optionally be stored. Material data is all data related to the packaging material and/or the reel of the packaging material. Regulating the packaging process particularly means the actuation of a respective packaging machine. The same may be a stretching machine, by means of which the packaged goods are wrapped in a stretch foil fully or partially automatically. For this purpose the packaged goods are wrapped, for example, on a palette from the bottom toward the top in a single or in multiple layers, optionally in an overlapping manner. As an alternative or in addition the packaged goods may also be strapped. For this purpose the strapping is the wrapping of a strap around the packaged goods, the strap particularly being made of a plastic material, which is tensioned and connected to itself, particularly bonded. The bonded connection is carried out in particular by means of gluing or welding.

[0010] The stretching or strapping particularly serves for securing the packaged goods, which may include, for example, goods packaged in boxes, during transport and/or shipping. In particular, the same refers to a transport on a forklift, truck, transporter, airplane, ship, and/or railway car. The term regulating the packaging process includes the specification and regulating of all operating parameters of the packaging machine. In particular, the regulating also includes the output of a warning message, i.e. in case a non-suitable stretch film type has been selected.

[0011] The creating of a product pass means the creating of a document substantially including data on the packaging of the product. In particular, the product pass is configured such that it reveals when, using which packaging material, the packaging was carried out on which machine, and/or using which operating parameters for the packaged goods.

[0012] In a process including step A), the selection of a packaging material can be significant. Here, regulation of the packaging process takes into account the kind of packaging material if different packaging materials can be used by the particular machine (e.g., the parameters for driving the machine may vary depending on a thickness and/or a width of the foil).

[0013] This is possible in an advantageous manner particularly, if the respective packaging machine may have different packaging materials at its disposal, or if a carrying out of a packaging process utilizing a non-suitable material is not possible. Along these lines, step A) may include a "non-operation" of the machine if the packaging material is not suitable for the packaging process (e.g., if paper is inadvertently introduced rather than foil into the stretching machine).

[0014] According to a further advantageous embodiment of the process, the data carrier is read in a contactless manner.

[0015] In particular, the data carrier includes at least one of the following elements:

[0016] a) a transponder;

[0017] b) an RFID; and

[0018] c) a barcode.

[0019] Contactless reading of the material means in particular a readout process without any manual contact between the reading device and the data carrier. For this purpose a readout process based on electromagnetic radiation is preferred. Particularly transponders and/or RFIDs (radio frequency identification devices) also allow the storage of data in the respective data memory in addition to a readout of the material data such that data, such as the residual length of the respective reels, may also be stored in the transponder and/or RFID.

[0020] The contactless readout of data provides the advantage that no manual or haptic contact to the reel of the packaging material has to exist, but that the readout of the data may already occur when the reel is not yet inserted into the packaging machine.

[0021] According to a further advantageous embodiment of the method, packaged goods data related to the packaged goods is taken into consideration.

[0022] The packaged goods data may in particular be data including the type of packaged goods, dimensions, mass and quantities of the packaged goods. The packaged goods data may be obtained from a data carrier, and/or manually input or selected.

[0023] According to a further advantageous embodiment of the method, the material data includes at least one piece of the following information:

- [0024]** a) a type of the packaging material;
- [0025]** b) a classification of the packaging material;
- [0026]** c) a material composition of the packaging material;
- [0027]** d) a thickness of the packaging material;
- [0028]** e) a residual quantity of the packaging material;
- [0029]** f) a width of the packaging material;
- [0030]** g) a quality level of the packaging material;
- [0031]** h) a stress-strain behavior of the packaging material;
- [0032]** i) information on a breaking strength of the packaging material;
- [0033]** j) information on puncture resistance of the packaging material;
- [0034]** k) information on adherence of the packaging material to the packaging material;
- [0035]** l) information on chemical resistance of the packaging material;
- [0036]** m) information on durability of the packaging material with regard to electromagnetic radiation;
- [0037]** n) information on a manufacturer of the packaging material; and
- [0038]** o) information allowing a determination of an exact time and exact circumstances of a production of the packaging material.

[0039] The type of packaging material particularly means whether the same is stretch film, strapping, boxes, or the like. The classification of the material particularly means the specific title of the material. The composition of the material particularly means the characteristic parameter for the construction or chemical composition of the material, such as which type of polyethylene a stretch film is made from. Typical thicknesses of the packaging material in stretch films are, for example, within a range of 10 micrometers to 40 micrometers. The residual quantity of the packaging material is the quantity that can be effectively utilized for at least one packaging process. In particular, the same means a residual running length, preferably of a stretch film or of a strapping material.

[0040] The width of the packaging material is the dimensioning of the packaging material that is available for packaging the material, such as the width of a stretch film. The quality level of the packaging material is particularly a parameter that characterizes the applicability and/or rating of the packaging material. For example, in the case of a stretch film the same may be the stretching or elongation coefficient, which states the maximum stretchability of the stretch film possible for the packaging. Information on the breaking

strength and/or puncture resistance of the packaging material means data allowing conclusions as to the breaking strength and/or puncture resistance of the packaging material. Advantageously, stretch films are used, for example, during stretching, which have an elongation at break coefficient of 150% to 500%. Information on the adherence of the packaging material to the packaging material is relevant, for example, for stretching processes, as in this case, with the winding in a partially overlapping manner an adherence of the stretch film to the layers of the stretch film positioned underneath is advantageous, since the stability of the packaging is thereby increased.

[0041] The information on the chemical stability of the packaging material is significant particularly, if, for example, a transport and/or storage of the packaged goods in or by means of environments is planned or is possible, wherein corrosive chemicals are present, or may be present. The same applies to the resistance against electromagnetic radiation, particularly with regard to UV radiation.

[0042] The information on the manufacturer allows, for example, a manufacturer-specific operation of the packaging machine, wherein, for example, consideration must be given to specific instruction, or reference is made thereto. Information allowing the determination of the exact time and the exact circumstances of the production of the packaging material particularly means the charge and/or lot numbers of the packaging material.

[0043] The combination of at least one of the parameters a) to o) and a process is particularly advantageous, wherein the same both substantially excludes erroneous operations, thus leading to good packaging results while reducing costs, and simultaneously to a low risk of accidents based on improper packaging, and allows the tracing of which material by which manufacturer the packaging was carried out in which manner.

[0044] According to a further advantageous embodiment of the method, regulating of the packaging process includes at least one of the following steps:

- [0045]** i) selecting a type of packaging material;
- [0046]** ii) selecting of a certain classification of packaging material;
- [0047]** iii) controlling or regulating an elongation ratio of a stretch film during stretching;
- [0048]** iv) controlling or regulating of a numerical amount of windings of the packaging material around the packaged goods being present at least in partial areas of the packaged goods;
- [0049]** v) verifying a residual length of the packaging material;
- [0050]** vi) controlling or regulating a degree of overlapping of adjacent winding layers of the packaging material;
- [0051]** vii) controlling or regulating an angle of incline during winding of the packaging material;
- [0052]** viii) controlling or regulating a pre-stretching of the packaging material; and
- [0053]** ix) controlling or regulating a feed tension of the packaging material.

[0054] The selection of the type of packaging material particularly means whether the packaged goods are to be stretched or strapped, e.g. whether stretch film or strapping is being utilized. The selection of the classification of packaging material particularly means the selection of a certain level of quality, a thickness, a breaking strength and/or puncture resistance of the packaging material. The controlling or regulating

an elongation ratio of a stretch film during stretching means the specification of an elongation ratio, and optionally the monitoring thereof. The stretch film is stretched at the elongation ratio during stretching. The controlling or regulating of a number of windings of the packaging material around the packaged goods present at least in partial areas of the packaged goods is important particularly during stretching, as multiple layers are often wound on top of each other, for example, in the base and/or head area of the windings. Winding in the center area of the windings often takes place such that an at least partial overlapping of the layers is carried out. By taking the residual length of the packing material into consideration, it is verified whether the residual amount of the packaging material effectively being still available is sufficient for completely carrying out the packaging process. If this is not the case, the packaging process is not started, and/or the user is notified by means of a warning message.

[0055] The controlling or regulating of a degree of overlapping of adjacent winding layers of the packaging material, and the controlling or regulating of an angle of incline during the winding of the packaging material is significant particularly for the wrapping of packaged goods, such as during the stretching, as the stability of the packaging may be affected in case of exceeding a degree of overlapping of adjacent winding layers and/or exceeding an angle of incline of the packaging material during winding. This may occur particularly as a function of the amount, height, and/or mass of the packaged goods. The controlling or regulating of a pre-stretching of the packaging material is relevant in particular if film, preferably stretch film, is utilized as the packaging material, as reset forces are initiated via the setting of the pre-stretching and a subsequent respective deformation of the film, which bring about a fixing of the packaged goods. The controlling or regulating of a feed tension of the packaging material may be carried out particularly chronologically via the packaging process in a variable manner.

[0056] According to a further advantageous embodiment of the method, at least one of the steps i) to ix) is carried out as a function of at least one of the following parameters of the packaged goods:

- [0057] I) a type;
- [0058] II) quantity;
- [0059] III) mass;
- [0060] IV) dimensions;
- [0061] V) a planned use;
- [0062] VI) a planned type of transport; and
- [0063] VII) safety relevant requirements of the packaged goods.

[0064] The type of packaged goods means, for example, whether the same are goods that are completely or merely partially packaged in boxes. The quantity takes into consideration the amount of individual pieces within the packaged goods. The Mass is the total mass of the packaged goods. The dimensions of the packaged goods mean the dimensions of the packaged goods, and particularly, the dimensions relevant for the packaging, such as the exterior dimensions of the packaged goods to be packaged.

[0065] The regulating as a function of a planned use of the packaged goods means that it will be taken into consideration during the regulating of the packaging process, how the packaged goods are being utilized after transport. In particular, it may be taken into consideration to which degree damage to the transport goods or the re-packaging thereof may be tolerated. A regulating as a function of a planned type of transport

of the transport goods means taking into consideration the type of transport, wherein, for example, a transport via ship has fewer requirements of the packaging, than the transport via truck or airplane. Particularly, a mean application of force determined empirically, is taken into consideration for certain types of transports when selecting the packaging material and performing the packaging process.

[0066] The regulating as a function of safety relevant requirements of the packaged goods means, for example, that in case the packaged goods are breakable a higher lateral stability is created by means of the packaging material, than if the goods were not breakable. For example, a thicker film, a higher elongation, a greater amount of winding layers, and/or a lower angle of incline may be specified, and optionally regulated during the stretching of a pallet having breakable goods.

[0067] According to a further advantageous embodiment of the method, the product pass includes at least one piece of the following information:

- [0068] A) a type of the packaging material;
- [0069] B) classification of the packaging material;
- [0070] C) an elongation ratio of the stretch film during stretching;
- [0071] D) an amount of windings of the packaging material around the packaged goods;
- [0072] E) a degree of overlapping of adjacent winding layers;
- [0073] F) an angle of incline in a winding of the packaging material around the packaged goods;
- [0074] G) a pre-stretching of the packaging material;
- [0075] H) a feed tension of the packaging material;
- [0076] I) a type of packaged goods;
- [0077] J) a quantity of the packaged goods;
- [0078] K) mass of the packaged goods;
- [0079] L) a planned use of the packaged goods;
- [0080] M) a planned shipping type of the packaged goods;
- [0081] N) safety relevant requirements of the packaged goods;
- [0082] O) a manufacturer of the packaging material;
- [0083] P) information allowing a determination as to an exact time and exact circumstances of the production of the packaging material;
- [0084] Q) a time of the packaging process; and
- [0085] R) information on the packager.

[0086] The product pass may be created particularly in one of the following forms:

- [0087] a) as a printout, such as on paper;
- [0088] b) as a printout on the packaging material;
- [0089] c) on a decentrally stored electronic database; and
- [0090] d) as an electronic data memory that is associated with the packaged goods or with the packaging, particularly in the form of a transponder and/or RFID.

[0091] Preferably the product pass includes a respective coding, which can be associated with the respective data. The product pass allows the reconstruction of the packaging process such that it can advantageously be verifiable, for example, to the packager, that the requirements of the sender, recipient, transport company, and/or owner of the packaged goods have been met. In case of an accident based on, for example, a load that has slipped, information may be obtained on the type and processing of the packaging, which enables clarification of the accident and/or also an improvement of the packaging materials or methods.

[0092] According to a further aspect, a device for carrying out the method is provided, particularly having respective means for carrying out the respective process steps.

[0093] In particular a stretching or strapping machine may be utilized, which particularly include reading and/or writing heads for the communication with transponders and/or RFIDs. The device may particularly include a control means (or controller), in which the method is carried out.

[0094] Furthermore, a product is packaged in accordance with the method.

[0095] The details and advantages disclosed for the method may be applied and transferred to the device, and to the product, and vice versa.

BRIEF DESCRIPTION OF THE DRAWINGS

[0096] Certain embodiments of the invention are described in further detail based on the attached figures, without being limited to the details shown therein. They schematically show:

[0097] FIG. 1 a first example embodiment of a stretching machine;

[0098] FIG. 2 an example of a packaging material on a reel;

[0099] FIG. 3 a second example embodiment of a stretching machine; and

[0100] FIG. 4 a first example embodiment of a strapping machine.

DETAILED DESCRIPTION

[0101] FIG. 1 shows a first example embodiment of a stretching machine 1, in fact a palette winding stretching machine. Objects 2 to be packaged as packaged goods are located on a palette 3. The packaged goods 2 are wrapped with a film 4 by means of the stretching machine 1, wherein the palette 3 is rotated by means of a rotating means or rotator, while a film reel 9 is moved up and down on a telescoping rod 10. The film 4 is stretched during the winding of the palette 3 and of the packaged goods 2.

[0102] The stretching machine 1 is operated in accordance with a method. For this purpose the film 4 has a data carrier 5 that is illustrated schematically only. The data carrier 5 particularly includes a so-called RFID, or a transponder, which is embodied on or in a sleeve that is not illustrated, onto which the film 4 is wound. The stretching machine 1 has means 6 for communicating with the data carrier 5 (e.g., communications circuitry). If the data carrier 5 is a transponder, respective reading devices may be embodied as the means 6 for reading the data, which may communicate with the data carrier 5 preferably within the RF region (radio frequency region) by means of electromagnetic radiation. As an alternative, or in addition, the palette 3 may also have a further data carrier 20, which may also serve for reading and/or writing in a preferably contactless manner via respective means 6 for communication with the data carrier 20. Preferably the data carrier 20 includes the product pass on the palette 3.

[0103] According to certain embodiments of the invention the stretching machine 1 is operated as a function of the material data read from the data carrier 5. Furthermore, a product pass is created from at least parts of the material data, and optionally from the packaged goods data, and stored on the data carrier 20. For this purpose the storage is carried out via the means 6 for communication with the data carrier 20. Furthermore, a storage of the residual length of film 4 is carried out on the data carrier 5 of the film 4. The remaining

example embodiments of stretching and strapping machines stated above are described in further detail below.

[0104] FIG. 2 shows a packaging material, i.e. a film reel 9 including a film 4 that is wound onto a sleeve 7. In the interior of the sleeve 7 the same includes an RFID as a data carrier 5 having material data on the film 4. As an alternative, or in addition the film itself may include further identification units (data carriers), particularly respective barcodes, from example, in periodic intervals.

[0105] FIG. 3 shows a further example of a stretching machine 1 being operated according to certain embodiments of the invention. The same is a so-called horizontal winder. In the same packaged goods including at least one object 2 to be packaged, typically relatively bulky packaged goods 2, such as a carpet, or large-scale building components, are wrapped in a film 4. For this purpose the film 4 is wound onto a sleeve 7, thus forming a film reel 9 including a data carrier 5. The stretching machine 1 includes means 6 for communication with the data carrier 5 for the readout of material data, which are stored on the data carrier 5. The readout is carried out in a contactless manner, such as by means of electromagnetic radiation with the use of an RFID as the data carrier 5. In this stretching machine 1, the rotational means (or rotator) 8 moves the film reel 9 about the packaged goods 2, which may be moved via respective feed means (or feeder) 11.

[0106] FIG. 4 shows an example of a strapping machine 13 being operated according to certain embodiments of the invention. The same is a so-called frame strapping machine 13, in which packaged goods 2 are strapped using a strap 14, typically a plastic and/or metal strap. The strap 14 is housed on a strap reel 15, which includes a data carrier 5. The strapping machine 13 includes means 6 for communication with the data carrier 5 for the readout of material data that is stored on the data carrier 5. The readout is carried out in a contactless manner, such as by means of electromagnetic radiation with the use of at least one RFID as the data carrier 5. In a frame strapping machine 13 the strap 14 is guided through a strap guide channel 17 being configured in the frame 16 and in the drive unit 19 such that the space 18 limited by the frame 16 is initially surrounded by the strap 14. For this purpose the guiding of the strap 14 through the strap guide channel 17 is carried out by means of drive wheels (not illustrated) that are configured in the drive unit 19, which drive the strap 14 in a force-fitting manner. If the strap guide channel 17 is equipped with the strap 14 a strapping of the packaged goods 2 may be carried out in the space 18 by means of tightening the strap 14. For this purpose the strap guide channel 17 is advantageously equipped on the inside with spring-loaded closures, which open during the tightening of the strap 14 and release the strap 14. After the strap 14 abuts to the packaged goods 2, and/or after a predetermined tension is applied to the strap 14, the strap 14 is interconnected, such as welded and/or glued, and then separated such that the packaged goods 2 remain strapped by means of the closed strap 14.

[0107] According to certain embodiments of the invention the strapping machine 13 is operated as a function of the material data on the data carrier 5, and optionally as a function of the packaged goods data such that, for example, the material of the strap 14 (i.e. metal or plastic) is selected according to the packaged goods 2, and that, for example, the position of the strap 14 on the packaged goods 2, or the number of straps 14 per packaged goods 2, are also determined.

[0108] The method reduces the possibility of operating errors during the packaging of packaged goods 2 utilizing

packaging material 4, 14. The packaging process becomes more transparent by means of a method according to certain embodiments of the invention, and may also be traced and/or reconstructed at a later time.

LIST OF REFERENCE SYMBOLS

- [0109] 1 stretching machine
- [0110] 2 objects to be packaged
- [0111] 3 palette
- [0112] 4 film
- [0113] 5 data carrier
- [0114] 6 means for reading data
- [0115] 7 sleeve
- [0116] 8 rotational means
- [0117] 9 film reel
- [0118] 10 telescoping rod
- [0119] 11 feed means
- [0120] 12 control means
- [0121] 13 strapping machine
- [0122] 14 strap
- [0123] 15 strap reel
- [0124] 16 frame
- [0125] 17 strap guide channel
- [0126] 18 space
- [0127] 19 drive unit
- [0128] 20 additional data carrier

1. A method for packaging packaged goods in a packaging material, which surrounds the packaged goods at least partially, the packaging material being unwound from a reel having at least one readable data memory for material data, characterized in that the material data is read from the data memory and processed, wherein at least one of the two following actions is performed:

- A) regulating the packaging process as a function of the material data, and
- B) creating a product pass based on the material data.

2. The method according to claim 1, wherein regulating the packaging process as a function of the material data includes the selection of a packaging material.

3. The method according to claim 1, wherein the data carrier is read in a contactless manner.

4. The method according to claim 1, wherein the data carrier includes at least one of the following elements:

- a) a transponder;
- b) an RFID; and
- c) a barcode.

5. The method according to claim 1, wherein packaged goods data relating to the packaged goods is taken into consideration.

6. The method according to claim 1, wherein the material data comprises at least one piece of the following information:

- a) a type of the packaging material;
- b) a classification of the packaging material;
- c) a material composition of the packaging material;
- d) a thickness of the packaging material;
- e) a residual quantity of the packaging material;
- f) a width of the packaging material;
- g) a quality level of the packaging material;
- h) a stress-strain behavior of the packaging material;
- i) information on a breaking strength of the packaging material;
- j) information on puncture resistance of the packaging material;

k) information on adherence of the packaging material to the packaging material;

l) information on chemical resistance of the packaging material;

m) information on durability of the packaging material with regard to electromagnetic radiation;

n) information on a manufacturer of the packaging material; and

o) information allowing a determination of an exact time and exact circumstances of a production of the packaging material.

7. The method according to claim 1, wherein the regulating of the packaging process includes at least one of the following steps:

- i) selecting a type of packaging material;
- ii) selecting of a certain classification of packaging material;
- iii) regulating an elongation ratio of a stretch film during stretching;
- iv) regulating of a numerical amount of windings of the packaging material around the packaged goods being present at least in partial areas of the packaged goods;
- v) verifying a residual length of the packaging material;
- vi) regulating a degree of overlapping of adjacent winding layers of the packaging material;
- vii) regulating an angle of incline during winding of the packaging material;
- viii) regulating a pre-stretching of the packaging material; and
- ix) regulating a feed tension of the packaging material.

8. The method according to claim 7, wherein at least one of the steps i) to ix) is carried out as a function of at least one of the following parameters of the packaged goods:

- I) a type;
- II) a quantity;
- III) a mass;
- IV) dimensions;
- V) a planned use;
- VI) a planned type of transport; and
- VII) safety relevant requirements of the packaged goods.

9. The method according to claim 1, wherein the product pass includes at least one piece of the following information:

- A) a type of the packaging material;
- B) a classification of the packaging material;
- C) an elongation ratio of the stretch film during stretching;
- D) an amount of windings of the packaging material around the packaged goods;
- E) a degree of overlapping of adjacent winding layers;
- F) an angle of incline in a winding of the packaging material around the packaged goods;
- G) a pre-stretching of the packaging material;
- H) a feed tension of the packaging material;
- I) a type of packaged goods;
- J) a quantity of the packaged goods;
- K) a mass of the packaged goods;
- L) a planned use of the packaged goods;
- M) a planned shipping type of the packaged goods;
- N) safety relevant requirements of the packaged goods;
- O) a manufacturer of the packaging material;
- P) information allowing a determination as to an exact time and exact circumstances of a production of the packaging material;
- Q) a time of the packaging process; and
- R) information on the packager.

10. A device for packaging packaged goods in a packaging material, which surrounds the packaged goods at least partially, the device comprising:

- an assembly constructed and arranged to unwind the packaging material from a reel having at least one readable data memory for material data;
- a reader constructed and arranged to read and process material data from a data memory; and
- a mechanism constructed and arranged to perform at least one of (i) regulating the packaging process as a function of the material data, and (ii) creating a product pass based on the material data.

11. A product that is packed by a process which comprises: unwinding packaging material from a reel having at least one readable data memory for material data; reading and processing material data from a data memory; and performing at least one of (i) regulating the packaging process as a function of the material data, and (ii) creating a product pass based on the material data.

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