

GRAINPRO® COLLAPSIBLE DRYER CASE II™

# INSTRUCTION MANUAL

MA4022JMJO412-9



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## 1. INTRODUCTION

The GrainPro® Collapsible Dryer Case II™ (CDC II™) is a low-cost portable dryer for effective, safe, and convenient drying of various agricultural commodities. It uses solar energy, which is the simplest and most economical drying method. With the use of CDC II™, agricultural commodities are guaranteed to be dried with minimum losses and with minimal operational expenses.

CDC II™ is specially designed for easier set up and operation. Made from woven coated PE which is twice as strong as ordinary tarpaulin and two times lighter than reinforced PVC, CDC II™ is easy to carry around. It has inflatable side walls made of PE tube. During nighttime or in case of rain, CDC II™ can be easily folded with the use of pulling straps. The heavy-duty zipper and flap cover will prevent entry of moisture or water, protecting the commodity from moisture re-adsorption. It is supplied with a foot pump, cloth duct tape and operating manual.

### 1.1. FEATURES:

- 1.1.1. Enable drying of grains on almost any flat surface
- 1.1.2. Fast and easy to installation by inflating the side walls
- 1.1.3. Does not need fuel or electricity
- 1.1.4. Reduces losses caused by spillage
- 1.1.5. Enables rapid closing with the use of pulling straps, heavy duty zipper, and flap cover in case of rain
- 1.1.6. Lightweight and easy to transport
- 1.1.7. Easy to repair and maintain

### 1.2. PRODUCT GUARANTEE:

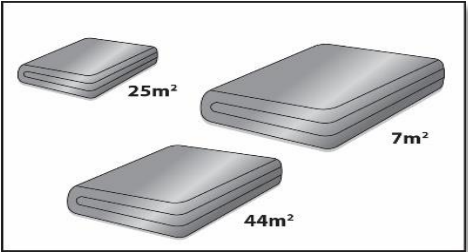
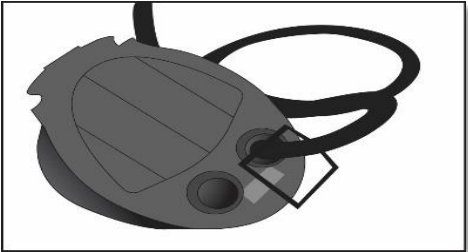

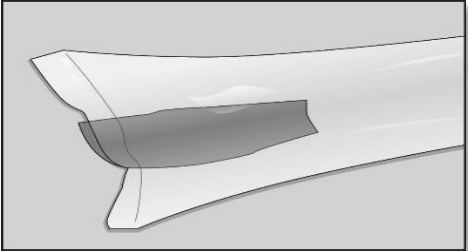
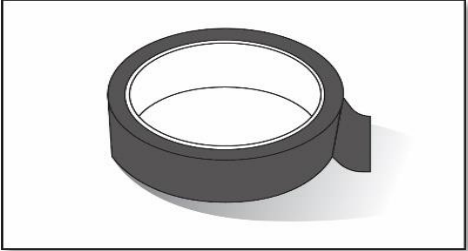
- 1.2.1. In accordance with the terms and conditions herewith, GrainPro, Inc. fully guarantees the quality of this product provided it is used according to the instructions in this manual.
- 1.2.2. Please read and understand the manual thoroughly before using the CDC II.

### 1.3. COMMENTS, COMPLAINTS, AND/OR CLARIFICATIONS:

- 1.3.1. Please contact [customercare@grainpro.com](mailto:customercare@grainpro.com).
- 1.3.2. All queries will be answered by our team of post-harvest solutions experts.

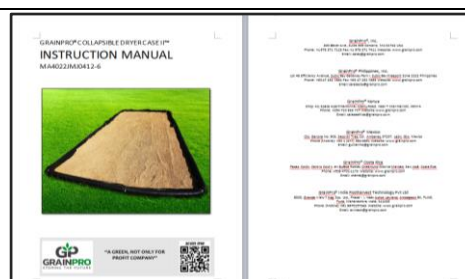
## 2. CHECKLIST

Please inspect your GrainPro® CDC II™ to ensure that the package includes the following items:

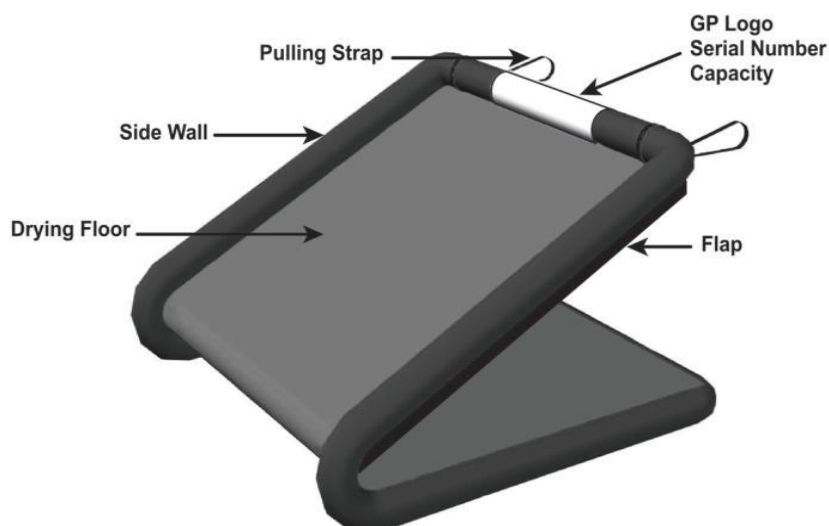
PART NAME	DESCRIPTION	IMAGE
2.1. BODY	2.1.1. With pulling straps and zipper cover. 2.1.2. One (1) piece	
2.2. FOOT PUMP	2.2.1. Mechanical pump for inflating PE air tube. 2.2.2. One (1) unit	
2.3. PNEUMATIC HOSE	2.3.1. Extension/adapter tube for foot pump. 2.3.2. One (1) piece (4.88mm dia.)	
2.4. AIR TUBE (PE)	2.4.1. Inserted inside the side wall. 2.4.2. Two (2) pieces	
2.5. REPAIR KIT	2.5.1. Duct tape 2.5.2. One (1) roll	

## 2.6. INSTRUCTION MANUAL

- 2.6.1. Installation instructions.
- 2.6.2. Maintenance instructions.
- 2.6.3. Frequently asked questions
- 2.6.4. Warranty clause.



## 3. COMPONENTS



## 4. SPECIFICATIONS

PARAMETERS	CDC II™ -25	CDC II™ -44	CDC II™ -75
Drying Area, m <sup>2</sup> (ft <sup>2</sup> )	25 (269)	44 (474)	75 (807)
Dimension (LW), cm (inch)	915x300 (360x118)	1,595x300 (628x118)	1,325x595 (522x234)
Capacity, bags (@50kg/bag) 110.23lbs/bag). Based on Paddy	10	18	31
Packed Weight, kg (lbs) (Without Pallet)	16 (35)	27 (60)	36 (79)
Packed Dimension, cm (inch)	105x85x5 (42x34x2)	105x85x9 (42x 34x4)	105x85x15 (42x34x6)
Main Material	Woven Coated PE		
Color	Black		
Thickness, mm (inch)	0.50 (0.02)		
Material Weight, g/m <sup>2</sup>	320		
Product Life, years	3		

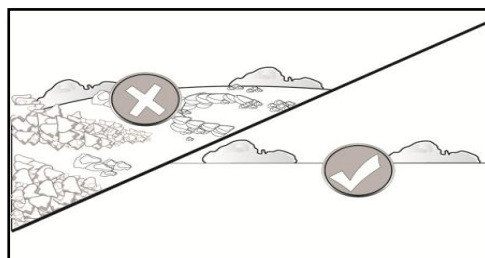
## 5. WARNINGS!

- 5.1. Do not directly install the CDC II™ without clearing away debris and other foreign materials on the ground.
- 5.2. Do not wear shoes with spikes as this might cause damage to the CDC II™.
- 5.3. Do not smoke beside or near the drying case, cigarette butts might burn and damage the CDC II™.
- 5.4. Do not use tools/accessories with sharp edges as these may cause tears/cuts to the liner.
- 5.5. Do not allow loading vehicles (i.e., forklift/trucks) to run over the CDC II™ as this will cause damage to the liner.
- 5.6. Do not keep the CDC II™ unclean as this will lead to rodent's attack. (Refer to 7.3)

## 6. INSTALLATION

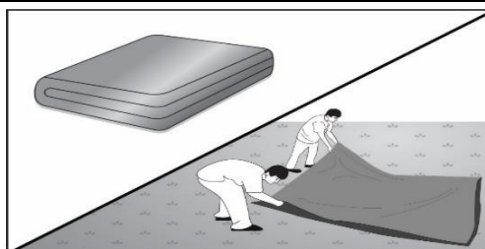
### 6.1. SITE SELECTION

- 6.1.1. In selecting a site, look for:
  - a. A smooth area away from standing or running water.
  - b. Open area for maximum absorption of solar radiation.

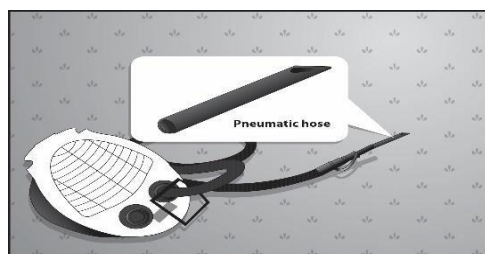


### 6.2. PREPARATION

- 6.2.1. Unfold the CDC II™ on the leveled ground. Take note of the folding pattern while the CDC II™ is being unfolded. This pattern should be followed when folding back the CDC II™ for safe keeping.



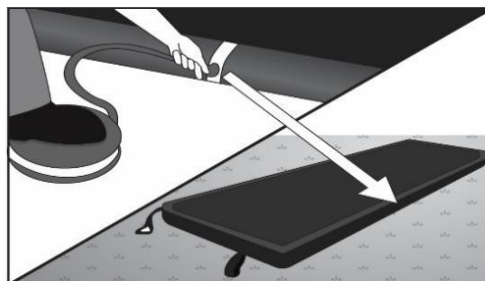
- 6.2.2. Inflate the air tubes using the foot pump to provide a wall-like structure to the CDC II™.
  - a. Insert the pneumatic hose by pushing inside the valve of the foot pump.



- b. Connect the valve of the foot pump into the inlet valve of the air tube and fill it up with air by pumping.

**NOTE:**

After filling up the air tube with air, simply detach the foot pump from the air tube and close the inlet valve.

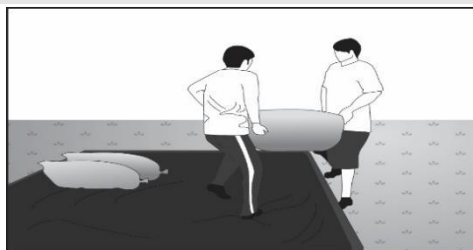




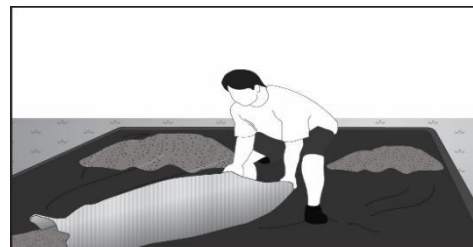
### 6.3. LOADING

6.3.1. Loading procedure requires at least two people:

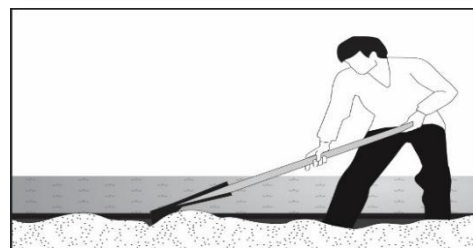
a. One person fills the CDC II™ by pouring the commodity from bags or buckets.



b. The second person spreads the commodities evenly to a recommended commodity bed thickness.



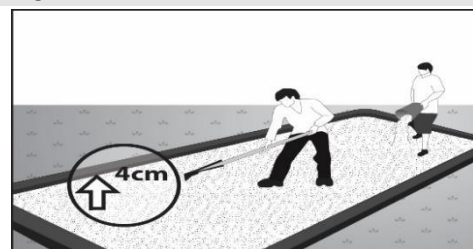
6.3.2. Ensure that tools/accessories being used do not have sharp edges as these may cause tears/cuts in the liner. Wooden tools/accessories are recommended. Use plastic or wooden rake to attain even distribution of commodities.



### 6.4. COMMODITY THICKNESS AND MIXING FREQUENCY

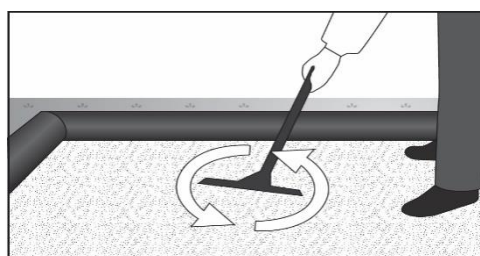
6.4.1. Commodity bed thickness:

This is a major parameter to be considered in sun drying especially for seeds and coffee. Consult experts on recommended bed thickness for your specific commodity based on local atmospheric conditions. As a rule of thumb, a bed thickness of 4 cm will result in attaining even drying.



6.4.2. Regular mixing:

This is another major parameter to be considered as atmospheric conditions, specifically heat and wind, vary from to location. As a rule of thumb, mix commodities every 30 minutes to attain equal drying. Frequent mixing will speed up the drying process and improve its quality. Turning of commodities using a wooden rake to prevent damage to the CDC II™ is recommended.



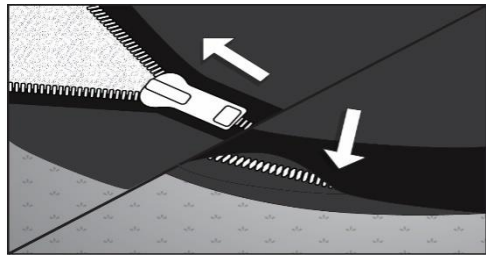
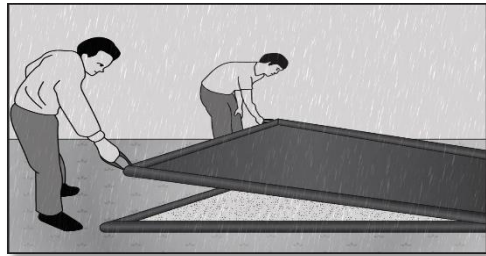


## 6.5. CLOSING THE ZIPPER

6.5.1. In cases of sudden rain or if when commodities are needed to be dried on the following day, move commodities to one side of the CDC II™ (the side where there is no zipper cover). Use the other side to cover the other side using the pulling straps.

Note: Insert the flap cover underneath the CDC II™ to prevent rainwater and moisture to penetrate the heavy-duty zipper.

6.5.2. Closing and opening of the heavy-duty zipper can be easily done.



## 6.6. PREVENTING CONDENSATION AT NIGHT

6.6.1. Condensation is caused by fluctuations in temperature that usually result from day/night temperature variations. Condensation may take place at a minimum variance of 5°C.

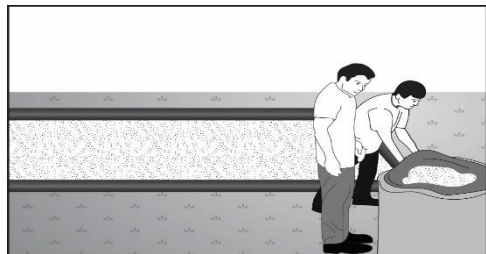
6.6.2. To prevent condensation in situations where the commodities should be retained in the CDC II™ overnight, it is recommended (BEFORE CLOSING THE CDC II™) that the commodity temperature be lowered closer to the average night temperature.

## 6.7. UNLOADING

6.7.1. Transfer the commodities to the bags when the commodities have reached their equilibrium moisture content.

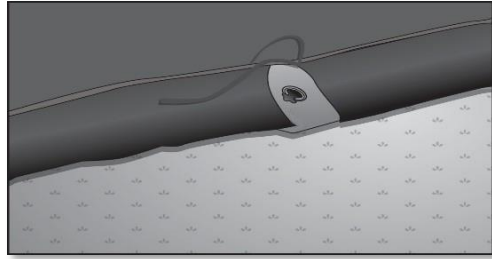
6.7.2. Scoop the dry commodities using plastic or wooden ladle with no sharp edges back into bags.

6.7.3. Do not use tools/equipment with sharp edges as these may cause tears/holes and damage the liner. Use plastic spades/shovels, with round corners, to empty the CDC II™.



## 6.8. DEFLATING THE AIR TUBE

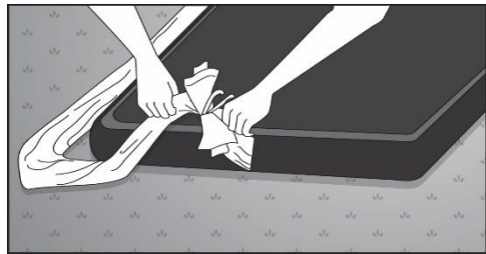
- 6.8.1. To remove the air from the air tube, simply open the two inlet valves.
- 6.8.2. This will cause the air to freely come out of the air tube.



## 7. MAINTENANCE AND CARE

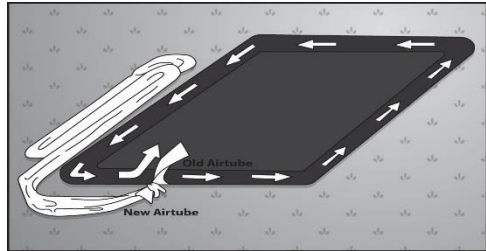
### 7.1. REPLACEMENT OF AIR TUBE

- 7.1.1. When the side wall cannot be inflated, the air tube inside is damaged. It is recommended to replace the air tube with a new one. To replace it, attach one end of the spare air tube to the old air tube. Then, old, and new PE air tubes are connected for pulling.



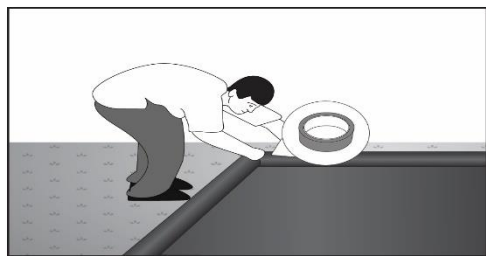
- 7.1.2. Carefully pull the other end of the old tube. The old PE tube releases while the new PE tube is re-inserted inside the sidewall.
- NOTE:

- Air tubes are especially designed and are only available at GrainPro®.



### 7.2. REPAIRING PUNCTURES AND OTHER DAMAGES

- 7.2.1. Use the patching material and adhesive found in the repair kit:
- a. Clean the area to be patched with a damp cloth or organic solvent.
  - b. Apply glue (150-200g) on both surfaces with a brush or equivalent.
  - c. Let it dry for 5-10 minutes and stick and apply sufficient pressure.

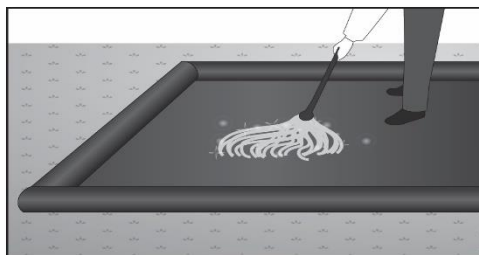


- 7.2.2. Protective maintenance:

- a. Check the patched WPE occasionally and replace or re-patch if necessary.

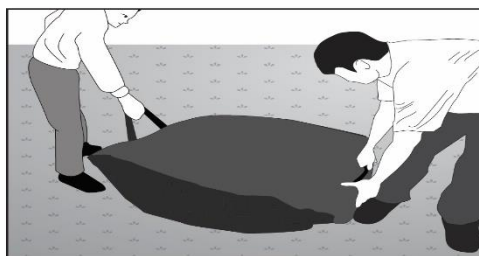
### 7.3. CLEANING

- 7.3.1. Clean the CDC II™ with soap and water.
- 7.3.2. Dry under the sun.



#### 7.4. SAFEKEEPING

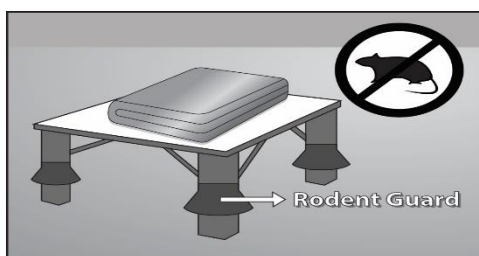
- 7.4.1. Fold the CDC II™ liner in reverse order as to how it was unfolded.



- 7.4.2. The empty CDC II™ should be stored away from heat or direct sunlight and away from rodents.

**NOTE:**

- Do not place heavy objects on top of the stored CDC II™ as it may damage or deform it.



#### 7.5. RECYCLING

GrainPro® CDC II™ is made of WPE.

- 7.5.1. The products can be delivered to the nearest recycling facilities in the area.
- 7.5.2. Woven Polyethylene (PE) can be recycled into compost bins, paneling, trash can liners and cans, floor tiles and shipping envelopes.

## 8. FREQUENTLY ASKED QUESTIONS

- 8.1. HOW OFTEN DO I NEED TO TURN THE COMMODITIES DURING DRYING?
  - Turn the commodities every 30 minutes as a safe practice for optimum drying.
- 8.2. CAN I INSTALL THE GRAINPRO COLLAPSIBLE DRYER CASE II™ ON A CEMENTED PAVEMENT?
  - CDC II™ is an alternative to cemented pavements.
- 8.3. DO I NEED TO FILL THE CDC II ENTIRELY FOR IT TO WORK?
  - CDC II™ is designed to operate effectively when commodities are dried under the recommended drying bed thickness. Maintaining a bed thickness of 4 cm is a safe practice.
- 8.4. HOW DRY MUST COMMODITY BE BEFORE IT CAN BE STORED?
  - Commodities should be dried to or below their equilibrium moisture content before they can be stored.
- 8.5. CAN RODENTS CHEW RIGHT THROUGH THE WOVEN PE MATERIAL WHEN THE CDC II™ IS INSTALLED?

- Yes, in areas with high rodent activity, we recommend that a CDC II™ will be protected using anti-rodent barriers.

#### 8.6. IS THERE ANYTHING YOU DO NOT RECOMMEND THE CDC II™ FOR?

- None. CDC II™ will work for any commodity that is normally sun dried.

## 9. WARRANTY CLAUSE

GrainPro® hereby warrants that product sold by it to Buyer shall be free of defects in workmanship and materials, for a period as follows, starting from the date of shipment (B/L): One year for the Collapsible Dryer Case II™ (CDC II™).

The warranty liability is limited to replacement of defective products during the warranty period at GrainPro's plant in accordance with the provisions specifically and expressly set forth herein.

The Buyer will pay for Products which need to be replaced under warranty, a percentage of the full list price according to the ratio between the period, which has passed until replacement, and the full warranty period.

The Buyer shall bear shipping costs for shipment of defective Products to GrainPro®, and GrainPro® shall bear shipping costs of returning good Products to Buyer.

The Warranty does not cover the cost of any services, work, or materials required for the replacement of defective Products with good Products at the site of installation.

GrainPro® shall have no obligation under the warranty to replace defective Products or parts thereof if the defect is a result of any of the following: normal wear and tear; damages occurring after delivery, accidents, acts of God, or catastrophes, fault or negligence, or improper storage installation, maintenance of the Products.

Replacement costs and shipping charges for Products found not to be under warranty as specified above would be paid in full by the Buyer before new/refurbished Products are shipped to.

Notwithstanding the above, if the Products include main parts or sub-assemblies purchased by GrainPro® from other vendors ("Additional Equipment"), then the period and terms of warranty for Additional Equipment are limited to the period and terms offered by the vendors of such equipment.

The Buyer agrees that the warranty liabilities of GrainPro shall be and are limited to the express foregoing terms: THE EXPRESS WARRANTIES AND OBLIGATIONS SET FORTH ABOVE, ARE AND SHALL BE IN LIEU OF ALL OTHER WARRANTIES AND OBLIGATIONS OF GRAINPRO®, and EXPRESSED OR IMPLIED. EXCEPT TO THE EXTENT HEREIN PROVIDED, GRAINPRO DOES NOT MAKE AND SHALL NOT BE DEEMED TO MAKE ANY WARRANTY WHATSOEVER TO THE, TO ANY END USER OR TO ANY OTHER PERSON OR PARTY, INCLUDING, WITHOUT LIMITATION, ANY WARRANTY OF MERCHANTABILITY OR OF FITNESS FOR ANY PARTICULAR USE OR PURPOSE. GRAINPRO® SHALL NOT BE LIABLE FOR ANY LOSS OF USE, SALES OR PROFIT OR FOR ANY INDIRECT, CONSEQUENTIAL OR INCIDENTAL DAMAGES CAUSED BY OR SUFFERED AS A RESULT OF THE SALE OR USE OF THE PRODUCTS.

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