



GrainPro MegaCocoon™

(Patent Applied For)

Storage of large volume of bagged commodities proves difficult in hot and humid climates. Large commercial traders, processors, and governments store commodities for years to ensure the market has a steady supply year round. Large amounts of staple grains are kept for food security or for fast relief operations during times of crisis or in order to stabilize market prices. GrainPro has developed a cost effective solution for storage of large volumes of bagged grain. The modular sized GrainPro MegaCocoon™, made of the same material as that of Cocoons, was developed for safe preservation of commodities up to 1050MT or more. A modified atmosphere is created consisting of a low level of oxygen and high level of carbon dioxide. This eliminates insect infestation, arrests mold development and prevents oxidation. A double row of “water snakes” around the perimeter of the MegaCocoon™ ensures that the system is hermetically sealed. The GrainPro MegaCocoon™ is ideal for the safe longtime storage of dry commodities.

Installation of MegaCocoon™

Stacking and Covering

The MegaCocoon™ is composed of four OR MORE sections: the bottom, left cover, middle cover or covers, and right cover sections. With a stack area of 240 sq meters or more, the bottom section is laid down. The bagged grains are stacked in a criss-cross manner. Once the bagged grains reached the height of 6 meters, the left cover section is pulled to cover the left portion of the pile followed by one or more middle section covers being placed over the commodity. On the other end of the MegaCocoon™, the right cover section is pulled over the stack. The cover sections are zipped together with a special gas and water tight zipper.



GrainPro MegaCocoon™



Stacked covered with left and middle section



Zipping of left, middle and right cover section

Sealing with Water Snakes

Water snakes are placed along the perimeter of the bottom layer and completely filled with water. The extra portion of the bottom section is rolled around the outer water snakes. The inner water snakes are rolled against the outer water snakes to hold the sheets tight and then filled with water. The weight of the filled water snakes will provide the hermetic sealing needed to generate a modified atmosphere inside the system.

Advantages

- Preserve grain quality for long period of storage
- Safe storage of commodities without using toxic and harmful fumigants
- Lifespan of 10-15 years
- Can easily increase storage capacity by adding middle sections
- Mobile and easy to install
- No maintenance and operation cost
- Outdoor storage, no need for infrastructure
- Cost effective storage system

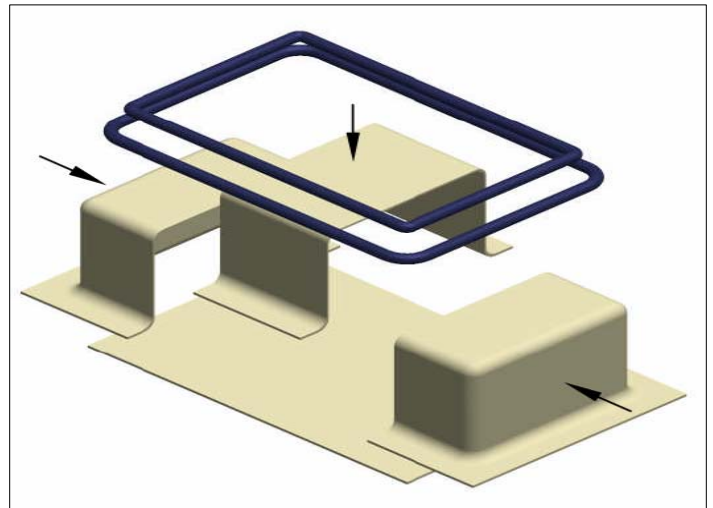
Specifications:

MegaCocoon™ with one middle section (ADDITIONAL MIDDLE SECTIONS CAN BE ADDED ON SPECIAL ORDER)

Properties	Values
Dimension (LxWxH)	24 x 10 x 6 m
Weight	1,350 kgs



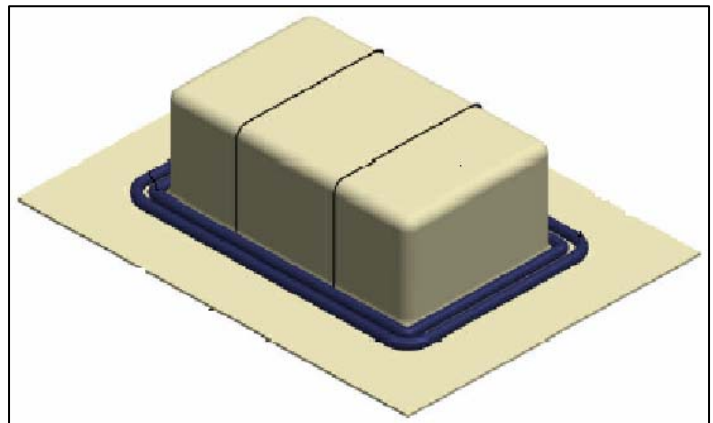
Water snakes placed along the perimeter



Sections of the MegaCocoon™

PVC Material:

Properties	Test Method	Unit	Values
Thickness	ASTM D 638	Mm	0.83
Tensile Strength MD	ASTM D 882 500 mm/min.	kg/cm ²	200
TD			200
Water Vapor Permeability	ASTM E 96 RH 90%, 38°C	gr/m ² /24hr	max. 8
Gas Permeability O ₂	ASTM D 1434-82, 25°C	ml/m ² /24hr	400
Gas Permeability CO ₂	ASTM D 1434-82, 25°C	ml/m ² /24hr	2300
Cold Crack	BS-3424	°C	-25



Fully Stacked MegaCocoon™ showing water snakes



GrainPro, Inc.

200 Baker Ave., Suite 309, Concord MA 01742, USA
 Tel. +1-978-371-7118 Fax. +1-978-371-7411 sales@grainpro.com
 GrainPro Phils, Inc – Subic Bay Gateway Park Phase 1,
 Subic Bay Freeport Zone, Philippines
 Tel. +63 47 2527884 Fax. +63 47 252 7885, salesasia@grainpro.com
www.grainpro.com