

Use, Handling and Transportation of FoodCap[®] Capsules.

Background

The FoodCap[®] System utilises a purpose built materials handling container, called a capsule, for the safe storage and transport of fresh product and food ingredients.

The design of the capsule ensures product security and safety of the contents by creating an air tight tamper proof seal, protected from any potential exterior contamination. The capsule can be vacuumed and gas flushed to create and anaerobic storage environment to retard bacteria development and extend product shelf life, colour and quality.

For the capsule to function correctly, and to ensure product security, it is important that it is handled in the correct manner. Incorrect handling can lead to damage of the capsule, potential personal injury to the operator, and potential loss of product quality, safety, security and shelf life.

This specification stipulates the correct procedures for handling and transporting to ensure both the ongoing integrity of the FoodCap[®] capsule and the protection of the product stored inside it.

1. The Capsule Design and Construction

1.1 - Capsule Uses:

The capsule is specially designed for the safe storage and transfer of;

- Fresh chilled meat
- Retail consumer packed meat
- Perishable products and food ingredients

1.2 - Capsule Applications:

The capsules can be used to;

- Pack, buffer and store product
- Age product (meat) to improve quality
- Internally transfer product within food production facilities
- Externally transfer product between production facilities
- Externally transfer retail packed product from the point of production to the point of sale

1.3 - Capsule Components:

The capsule comprises the following key component areas:

- Capsule body
- Capsule lid (including securing clips, seal and valve)
- Central skirt (welded to the main body)
- Wheel and axle assemblies

1.4 - Capsule Design Features:

There are several design features of the capsule which support the correct handling and transport. These include;

- The square profile of the top and the central skirt being in the same horizontal plane allows for more efficient and stable stacking. This produces a stack which utilises space efficiently (pallet footprint) and produces a very stable grouping when multiple capsules are restrained together.
- Each capsule runs on six wheels. These wheels allow the capsule to be manually transported around a facility easily by hand when their weight would otherwise require the use of a mechanised lifting device.
- The capsule lid fits onto the top of the body and is held in place by 8 durable clips.
- The Lid has six locating depressions in its surface. These depressions match the wheel arrangement of the capsule and allow for secure vertical multi-level stacking of capsules.
- The lid has a high capacity value that is used for in the vacuum gas flushing process to remove air and replace it with any gas formulation and ratio required by the user.
- Capsules can be automated via the use of forklifts, conveyors, robots or cranes.

1.5 - Capsule Specification:

Usage:

Primal meat storage
Retail ready product storage
Food ingredient storage
Perishable proteins storage

Specification:

Capsule Colour:	Beige
Capsule Material:	CPAWH – 57379 GFN – FDA
Maximum wash water temperature:	85 C
Cleaning Chemicals:	Alkaline or detergent based
Maximum Capacity:	175 kg
Internal Clear Volume:	180 l (nominal)
Maximum Full Stack height:	2 Capsules
Maximum Empty Stack height:	3 Capsules
Maximum Permissible Internal Vacuum:	- 2 psi Maximum
Permissible Internal Pressure:	+ 2 psi
Minimum Storage Temperature:	- 2 degrees Celsius
Temperature:	Ambient
Expected Life:	>5 years
Storage Location:	Indoors
Body and Lid Weight (combined):	26 kg (nominal)
External Dimensions:	560 x 560 (W) x 1020 (H)



** Expected life when used and handled in accordance with the specification for "Use, Handling and Transportation of capsules".*

2. Correct Handling Procedures:

2.1 - Manual moving by hand:

A capsule can be manually pushed along a flat hard surface by hand, such as a load out dock by utilising the wheels on its base.

When manually moving capsules the following “Basic Rules” should be adhered to:

- ❖ ALWAYS manually handle capsules as singles.
- ❖ NEVER impact capsules against walls or tip over onto hard surfaces.
- ❖ NEVER manually handle capsules when vertically stacked more than one high.
- ❖ NEVER de-stack capsules manually by hand. They may be too heavy to manually de-stack and injury may occur.
- ❖ DO NOT lift and drop the capsule onto its wheels as damage to the axles may occur. Always use controlled de-stacking mechanisms and if wheels become damaged – replace.

2.2 - Moving by Forklift:

When transferring capsules via forklift or other lifting device the following “Basic Rules” should be adhered to:

- ❖ ALWAYS lift the capsule with a forklift from under the central skirt ONLY. Do NOT lift the capsule with a forklift from under the top lip of the cap or from underneath between the wheels.
- ❖ ALWAYS set the width of forks correctly.
- ❖ Capsules should NEVER be moved by forklift when vertically stacked unless a specially designed fork attachment is fitted to the forklift which holds and supports capsules stacked vertically. Without such attachment only one layer should be lifted at a time otherwise there is significant risk that the top capsule will fall off causing damage to the capsule and or injury to personnel.
- ❖ Avoid transferring capsules via forklift or other lifting device on uneven or sloping surfaces.
- ❖ NEVER use the ends of the forks to push against the side of a capsule or skirt as damage will likely result.
- ❖ At all times the forklift should be operated in accordance with the forklift manufacturer’s operational instruction, and only be driven by a licensed operator.

2.3 - Multiple level stacking and de-stacking:

When stacking and de-stacking capsules the following “Basic Rules” should be adhered to:

- ❖ ALWAYS ensure the top capsule’s wheels are correctly located into the lid of the Capsule below.
- ❖ ALWAYS restrain vertically loaded capsules correctly during transport.
- ❖ NEVER vertically stack empty capsules more than 3 high, full capsules can be stacked 2 high.
- ❖ NEVER forklift vertically stacked capsules (unless special attachment is fitted).
- ❖ Vertical stacking should only be done on flat level surfaces otherwise the stacks will lean from the vertical increasing the risk of toppling.
- ❖ NEVER manually lift loaded capsules down from a stacked position, they are normally too heavy and personnel injury could result. Always use a mechanical de-stacker or forklift.
- ❖ NEVER drop a capsule from a vertically stacked position onto its wheels as damage to the wheels or axles may result.
- ❖ Capsules should NEVER be stacked or de-stacked by forklift more than one layer at a time unless a specially designed fork attachment is fitted to the forklift which holds and supports capsules stacked vertically. Without such an attachment only one layer should be lifted at a time otherwise there is a significant risk that the top capsule will fall off causing damage to the capsule and possible damage to the forklift and or injury to personnel.

2.4 - Restraint during transport:

When securing capsules inside a truck, semi-trailer, or shipping container, the following “Basic Rules” should be adhered to:

- ❖ ALWAYS restrain the capsule load so that it cannot move within the truck during transit. Each level of capsules must be restrained towards the front of the truck so that there is no forward-aft movement of the load during transit
- ❖ ALWAYS ensure that there are NO gaps in the load that would allow unrestricted movement.
- ❖ NEVER load empty capsules more than 3 high.
- ❖ NEVER load full capsules more than 2 high.

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