

PS Foam Absorbent Tray
for
Food Packages

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1. Introduction

There are many factors affecting the freshness of foods displayed in the refrigerated showcases for sale. The loss of the freshness lowers the taste of the foods and may cause a hygiene problem.

One of the main factors affecting the freshness is the blood generated from the frozen/fresh foods such as meats, chickens and fishes displayed in the showcases because the blood may give a bad impression on the foods to consumers and also may causes the decomposition of the foods by the propagation of the bacteria in the blood.

Absorbent Masterbatch developed by Samjin's world patent technology is used to produce PS foam Absorbent Trays which enhances the presentation and the hygiene of the foods displayed in the showcases by absorbing the blood into its high-capacity opened cores quickly and effectively.

PS Foam Absorbent Tray is an ideal packaging solution to prevent the foods from being decomposed and to keep the values of the foods for longer period of time even though the blood is generated from the frozen/fresh foods displayed in the showcases.



2. PS Foam Absorbent Trays

PS foam tray is most widely used in the world as a food packaging trays for its superior heat insulation property & cold resistance and a competitive price by its so high foam ratio. Hence PS foam trays are used as packages of the frozen/fresh foods especially.

But the freshness of the foods packed in PS foam trays is lowered considerably by the blood generated during the display in the showcases. Even the blood may cause the decomposition of the foods by the propagation of the bacteria.

To remove the blood, non-woven fabric type absorption pads have been used but there was a limit in absorbing the blood sufficiently. So such a problem as blood absorbency can't be solved with absorption pads completely.

To solve this problem fundamentally, Samjin has developed a Absorbent Masterbatch for PS foam absorbent trays capable of absorbing the blood quickly and effectively.

In addition, it helps to maintain the toughness of PS foam absorbent trays same as that of the Normal PS foam trays.

Namely PS foam absorbent trays have Not only the economic feasibility but also the practicality.

For these reasons, PS Foam absorbent trays are now being used in the world widely.



3. Absorbent Masterbatch

Development Motivation

Absorbent Masterbatch developed by Samjin provides a new function of water absorbency to PS foam trays, which is one of the most innovative food packaging methods. PS foam trays made of Absorbent Masterbatch absorb the blood generated from frozen/fresh foods while displayed in the showcases quickly and effectively.



Features & Advantages

- absorbs the water more than 6 times of its own weight
- absorbs the water quite quickly
- keeps the toughness of the tray same as the normal PS foam trays



Recommended Dosage per Grade

Grade	Recommended Dosage	Type	Remark
APS #347	4~6%	normal	applicable to most of PS foam machines
APS #355	2~3%	highly concentrated	applicable to PS foam machines with high torque motor power and precise temperature control system. Quick absorbency and high impact resistance

4. Absorbent Masterbatch Awards, Patents, Test Report

Awards

- KITECH President Prize in Korea Star Award 2011
- Gold Prize in Korea Invention Patent Exhibition 2012



KOREA STAR AWARD 2011



KOREA STAR AWARD 2011

Patents

- KOREA #10-0862273 (2008)
- EU #2289994 (2012)
- RUSSIA #2472819 (2013)
- CHINA #1422404 (2014)
- INDIA #279777 (2017)



KOREA



EU



RUSSIA



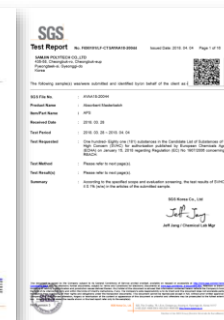
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INDIA

SGS Test Reports

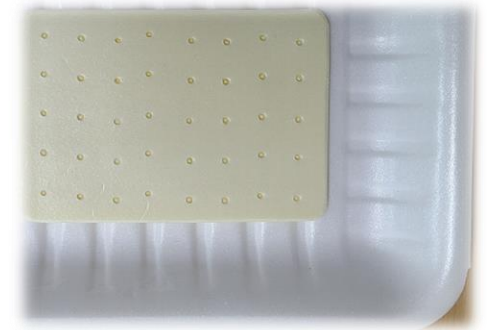
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- Reach Registration #F690101/LF-CTSAYAA18-20044
- RoHS #F690101/LF-CTSAYAA18-20045



5. Applications

Foods Packaging

- PS Foam **Absorbent Trays** for the packages of frozen/fresh foods
 - PS Foam **Absorbent Pads** for the solid(non-foamed) sheet foods packages
- ※ **Uses** : Meats, Chicken, Fishes, Processed Meats (Ham & Sausage)
- ※ **Absorbent Pads** are quite useful to absorb the water generated from the frozen processed meat effectively while thawing them.
- ※ **Advantages of Absorbent Pads:**
- More simple to produce
 - More diverse applications
 - More helpful for the recycling of the wasted trays
 - Much compact size => *save the logistic cost!*



Absorbent Pad



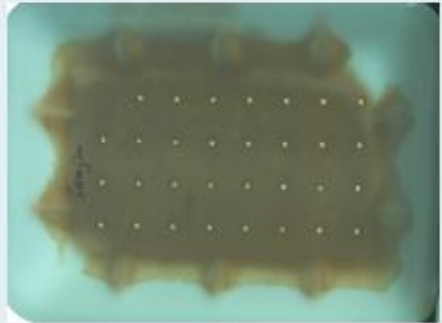


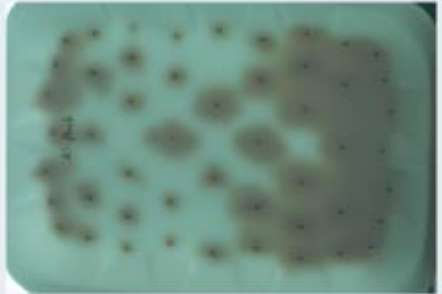
Moisture Keeping & Control

Keeping the moisture inside of the sealed foods containers especially for fruits and/or vegetable at the certain proper levels is much helpful to maintain the freshness of the contents which can be dried during the distribution/display for sale.

For this, PS Foam **Absorbent Trays** and **Absorbent Pads** can be used to keep the moisture by wetting them prior to pack the foods.

In addition, **PS Foam Absorbent Sheets** can be used as the **interior materials** of the constructions requiring to control the moisture inside of the rooms/halls at the certain level.

6. Comparison of Water Absorbency

Article	Weight before Absorption	Weigh after Absorption	Absorption Ratio
Samjin	9.88g	47.67g	482%
			
K Company	8.54g	21.81g	255%
			
Remark			