

# COLD STORE PANEL SYSTEM

## QUALITY & RELIABILITY

\* **HESCO** is the Middle East's leading manufacturer and one of the world leaders in the field of composite metal insulated panel. It is the only recognized expert in the coldstore panel system. Today no company in the world offers a wider range of panel sizes and thickness to suit all requirements, from small walk-in chillers and coldstorage depots to freezer complexes.

\* **HESCO** varifoam panels have been used in hundreds of prestigious projects throughout the middle East. **HESCO** varifoam panels have been approved by the world's most reputable consultants and Lloyd's register of shipping. Continuous research and development enabled HESCO to offer perfect component and construction techniques resulting in one of the world's highest standards yet achieved in the field of coldstore in terms of efficiency and energy conservation.

### \* **THE LATEST TECHNOLOGY**

\* HESCO uses the most modern and most sophisticated technology to produce varifoam coldstore panels on the only continuous foam injection line in the Middle East.

\* HESCO uses the best available insulation rigid Polyurethane foam injected between two metal sheets of pre-coated metal-galvanized steel, aluminum & stainless steel to produce the best coldstore panels in the international market in terms of thermal efficiency, structural stability and durability for the best quality & reliability of cold store panel system.

### \* **VERSALITY**

HESCO varifoam coldstore panels are used for wall, partitions and ceiling systems as well as floors for small walk-in coldrooms. Varifoam panels are produced in a wide range of thickness from 55 mm up to 170mm.

\* **VARIFOAM** is a modular thermal panel. It has a standard one meter width to achieve the optimum economy and ease of installation. Varifoam panel can be produced at any required length to suit the various room design and volumes. The extremely high thermal efficiency and wide range of panel size and thickness provide designers and specifiers with the opportunity to use HESCO varifoam coldstore panels with great versatility in a variety of commercial, industrial and institutional coldstore project.

### \* **CLASSIFICATION BY LLOYD'S REGISTER**

HESCO coldstore system is approved by Lloyd's, the largest ship classification society. Such classification provides owners and consultant with the confidence and reassurance that HESCO coldstore insulation system withstood stringent tests and found to meet the highest international performance standards of customers.

\* Benefit of their clarification of very significant-owners know that their stores are approved by reputable technical organization. They may also obtain preferential insurance rates and above all, owners know that their clients will have better trust on them.

### \* **VARIFOAM SPECIFICATIONS**

When specifying varifoam panels for coldstore applications, the following physical properties and performance criteria must be considered.

### \* **CORROSION FREE METAL SKINS**

The exterior and interior metal skin can be of Aluminum, Stainless steel & Galvanized steel conforming to ASTM A653 and or A446 grade-A with hot dipped galvanization. Metal skin gauge can be any combination of 0.50, 0.60, 0.75, 0.80 or 0.90 mm thick. The high quality skins are perfectly resistant to corrosion and can be easily maintained.

### \* **THE MOST EFFICIENT INSULATION**

HESCO insulation is composed of rigid expanded foam with a minimum 95% closed cell structure. The foam density is approximately 42 kg/m<sup>3</sup> and the K-value factor is 0.018 w/m deg. C. insulation thickness can be selected from a wide range 55 to 170 mm. Such foam properties produce the most efficient thermal panels available in the international market. The automatic & continuous side joint trimming enables perfect foam to foam contact at the side joints.

### \* **HIGH QUALITY ACCESSORIES**

HESCO'S responsibility covers not only the design and supply of varifoam insulated panels but also a complete range of high quality accessories including stainless steel rivets, heavy duty suspension system, support angles, vapour barriers, sealant and all other related trims and flashing required for coldstore application.

# TECHNICAL DATA

<b>Width</b>	Nominal effective coverage 1.0 meter
<b>Thickness</b>	55, 75, 85, 100, 125, 150, 170 mm
<b>Length</b>	Minimum 2.0 mm, maximum 15.0 meter (smaller or longer length available on request).
<b>Weight</b>	0.60/0.60, gauge thick galvanized steel skins – 100 mm thick insulation – approx. 14.20 kg/m <sup>2</sup> 0.75/0.75 mm gauge thick galvanized steel skins – 100 mm thick insulation – approx. 16.75 kg/m <sup>2</sup> (OTHER METAL SKIN OPTIONS AVAILABLE ON REQUEST)

## METAL THICKNESS

Steel gage	0.5,0.6,0.75, 0.8, 0.9 optional thickness available on request, consult HESCO
Galvanization	Hot dipped galvanized steel
Finish	Oven cured Polyester finish, 25 microns applied to both faces of the panels
Colour	HESCO standard decorative colour, special colours on request

## INSULATION PROPERTIES

Type	Polisocyanurate / Polyurethane foam
Density	From 37 – 42 kg/m <sup>3</sup>
Closed cell structure	95%
Tensile strength	3.0 kg/cm <sup>2</sup>
Compressive strength	1.62 kg/cm <sup>2</sup>

## INSULATION VALUE

Panel thickness (mm)	85	100	125	150	170
U-Value w/m <sup>2</sup> deg. C	0.21	0.18	0.14	0.12	0.11
BTU/Hr..ft <sup>2</sup> . deg.F	0.037	0.032	0.025	0.021	0.019

## RECOMMENDED STORE TEMPERATURE

Store type	Room Temp.	Panel Thickness
Vegetable	+5 deg. C to 12 deg. C	85 – 100 mm
Dairy product	+ deg. C	100 mm
Fresh meat	0 deg. C to deg. C	100 – 125 mm
Frozen meat	- 25 deg. C	125 mm
Quick freeze	- 35 deg. C to –45 deg. C	170 mm

## VARIFOAM SYSTEM APPLICATION

COLDSTORE, POTATO STORES, BANANA STORES, DATE FACTORIES, FOOD PRECESSING PLANTS, DAIRY FARMS, SLAUGHTER HOUSES, FREEZER ROOMS, WALK-IN CHILLERS, ICE PLANT, HOSPITALS, COLDROOM, UNIVERSITY LABORATORIES, COMPUTER ROOMS, POULTRY FARMS, PRINTING SHOP FACILITIES ETC..

**Durability** is achieved by the use of the highest quality control and highest quality raw materials and accessories.

**Controlled environment** is achieved by precise selection of the thermal panel efficiency, insulation thickness and proper design details.

**Perfectly sealed** against any air or water infiltration

HESCO systems joints are perfectly sealed at all locations panel joint, corners and at suspension system.

**Side joints:** In addition to the achievement of a perfect foam to foam contact.

**Corners:** All horizontal and vertical corners are designed to achieve the maximum security against any thermal bridging or water vapour infiltration. Panel ends are coped and corner joints are field foamed to achieve perfect structurally stable and rigid corners. All corners are further covered by the use of a matching metal flashing.

**Suspension system:** A heavy duty T-profile together with all necessary stainless steel rivets, bolts and nuts provide the system with the suspension T-profile is hung to the roof structure by means of threaded steel rods at 1.0 meter on center covered with rubber foam jackets that fit perfectly around the steel rods to prevent condensation

**Note:** Other specifications are available on request. Other metal types, Aluminum & Stainless steel. Others finished, Kynar PVF-2, Plastisol. Other colour HESCO standard colour range.

