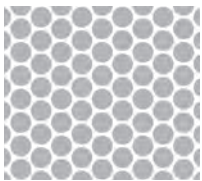


# Etfe systems new generation architectural solutions



# WHAT IS ETFE SYSTEMS?

## ETFE



ETFE (Ethylene Tetrafluoroethylene) is a fluoropolymer-based material. Created by Dupont firm for the flying machine industry, it is an item that is utilized as a part of present day engineering because of its light porousness and softness. It is normally connected as 2 layers, 3 layers, as inflatable airbags, now and again as single divider. ETFE material is thin and lightweight. Roughly 1% weight of glass, with all the more light transmittance, self-cleaning, perceivability and simplicity of use. The imperviousness to ETFE frameworks is extraordinarily expanded when air blown frameworks are utilized.

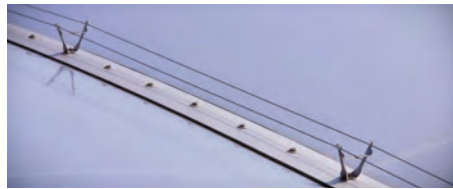
ETFE Systems are mounted on the carcass frame system with special Aluminum profiles. Blower machines in inflatable cushion systems are able to feed the inflatable cushion system continuously by entering the system again when extra pressure is required in any illegally fed system.

When designing ETFE systems, it is essential to keep in mind the climatic conditions, aesthetic, acoustic and environmental factors. ETFE inflatable cushions should be used in form, printed and 2 x 3 ply specifications according to the requirement of service.



# WHAT SHOULD BE PREFERRED?

## ETFE ROOF SYSTEMS



Among the roofing products, it is the most preferred material with its visibility and functionality.

## ETFE CUSHION



It is an ideal roofing product with inflatable treads cushions and natural insulation.

## ETFE STADIUM



It is among the most preferred coating types in modern stadiums.

## ETFE DETAIL



It is very important details in ETFE products. It gives confidence in the sophistication and simplicity of details.

## ETFE DESIGNS



It is one of the most beautiful systems that can be applied on roofs and facades with aesthetic and light appearance.

## ETFE ADVANTAGE



One wall or swelling (cushion) application with lightness, transparency and long-lasting.



# ETFE SYSTEM ADVANTAGES



## LIGHT IS BY CATEGORY

The heaviness of the 3-layer ETFE swelling framework is roughly 2-3 kg/ m<sup>2</sup> with the interfacing aluminum. This component has the favorable position that it can not be contrasted and glass. This element permits the entry of expansive openings with a lightweight transport framework. In this way, the transporter gives a great deal more practical arrangements when considered with the framework.



## HIGH HEAT INSULATION

U : 1.9 W / m<sup>2</sup> K value 6-12-6 double glass has better insulation.



## HIGH LIGHT TRANSMISSION

One wall has a light transmittance of the ETFE around 85-90%. It provides bright as outdoors indoors. Also light transmission level through the use of films can be controlled partially spotty.



## FLEXIBLE SPECIAL

The tensile strength limit can range up to 21-23 N / mm<sup>2</sup>. The cutting limit is 52 N / mm<sup>2</sup> and is considered to be 15 n / mm<sup>2</sup> in the rectangular calculations.



## SELF CLEANING

Since it doesn't stick to its surface, it has a self-cleaning capacity even in next to no rain. Cleaning the frameworks with rain water decreases the cost of intermittent upkeep and cleaning.



## LONG LASTING

UV, nearly 25 years due to resistance to air pollution and environmental conditions and has more life.



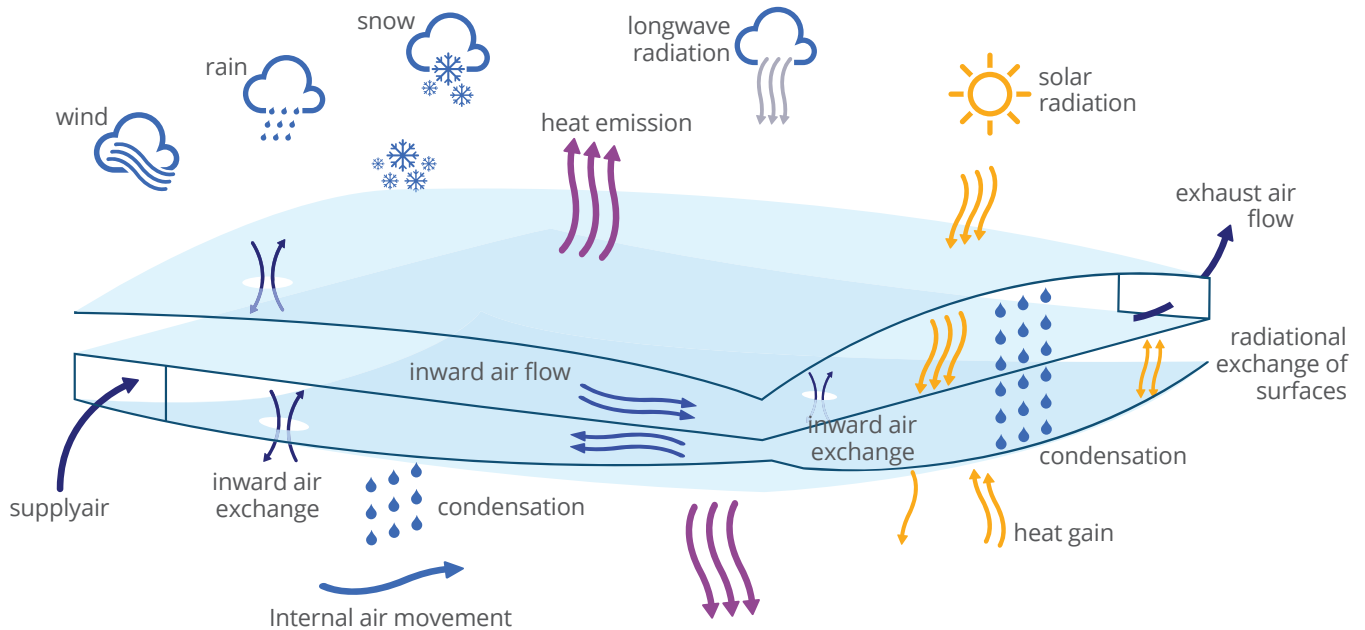
## SPECIAL ACOUSTIC

ETFE films have acoustic transmittance of 70%.

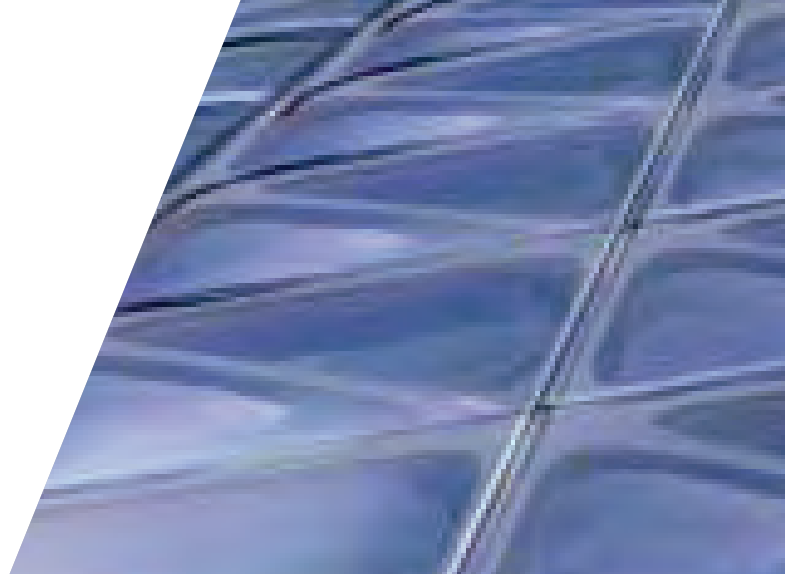


## FIRE RESISTANCE

DIN 4102 Class B1  
EN 13501-1 Class Bs1,  
d0 NFP 92-505 M2  
NFPA 701 Pass

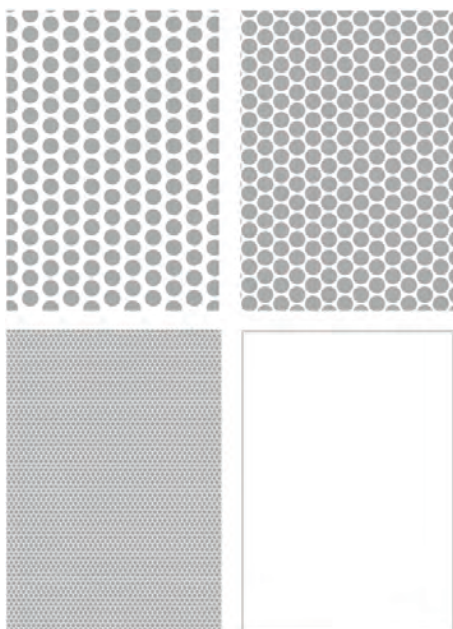


# ETFE SYSTEM TECHNICAL INFORMATION

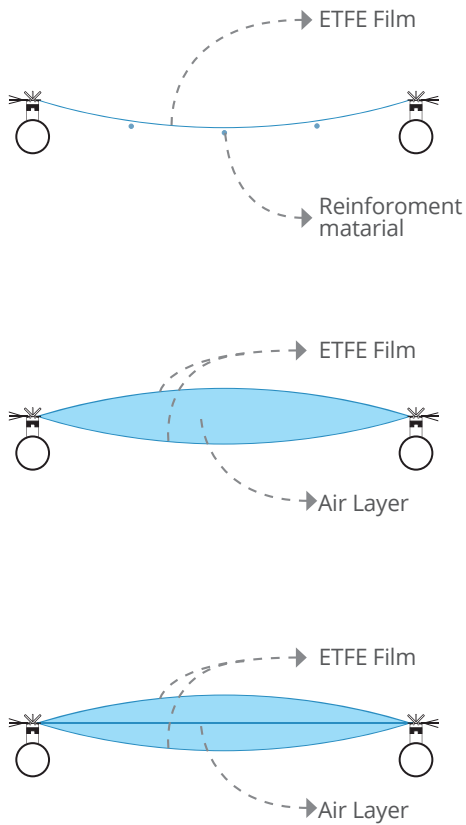


## MATERIAL SPECIFICATIONS

	Test Method	Unit	100	150	200	250	300
Thickness	DIN-53370	um	100±5	150±5	200±5	250±5	300±5
Weight	ISO-2286-2	g/m <sup>2</sup>	175±9	262±13	350±17	437±22	525±26
Strength	DIN-EN-ISO-527-3	MPa	50 min.	50 min.	50 min.	50 min.	50 min.
Elongation	DIN-EN-ISO-527-3	%	350 min.	350 min.	350 min.	350 min.	350 min.
10% Elongation Strength	DIN-EN-ISO-527-3	MPa	18 min.	18 min.	18 min.	18 min.	18 min.
Tear Strength	DIN-EN-1875-3	N/mm	400 min	400 min	400 min	400 min	400 min
Temperature Strength 150 degree C, 10 Minutes		%	-1±5	-1±5	-1±5	-1±5	-1±5
Light Transmission	DIN-EN-410	%	91 min.	91 min.	89 min.	87 min.	85 min.







ETFE film applications usually administered in three ways. One wall (stretching), two walls and a third wall inflatable cushion. ETFs film layers to be fully transparent in the form of a polka-dot printednvey, specific patterns can also be printed if desired. Overall 3 is printed on the top and bottom layer cushion system implementation is transparent middle. Inflatable cushion blowing system in which machines are used by the air pressure inside the cushion called the blower.

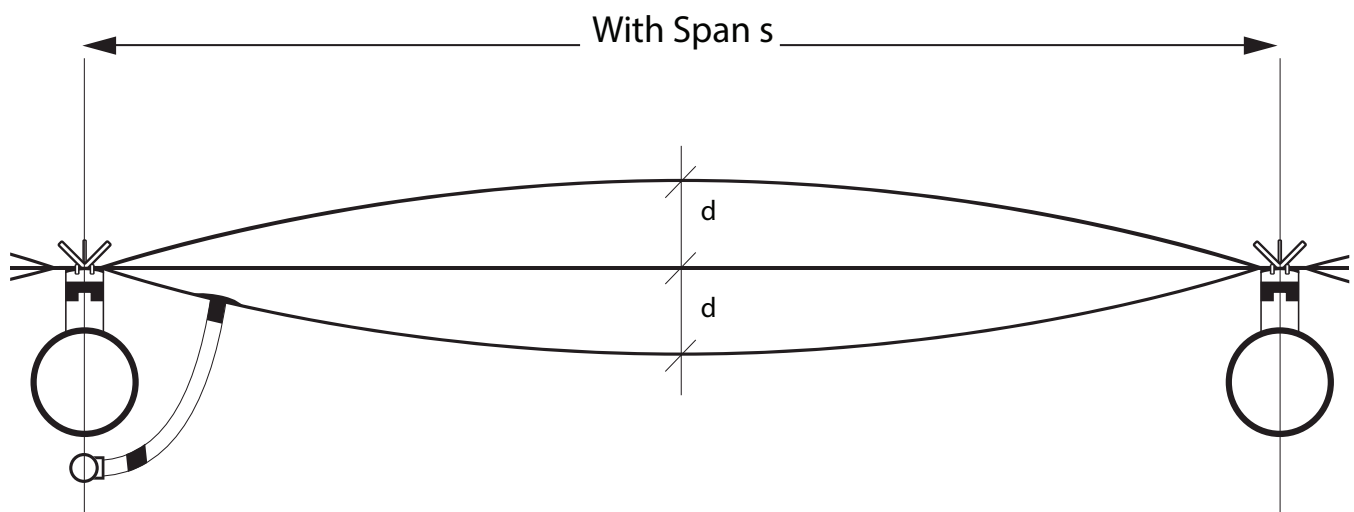


**Air circulation is provided with air pipe connected to the cushion.**

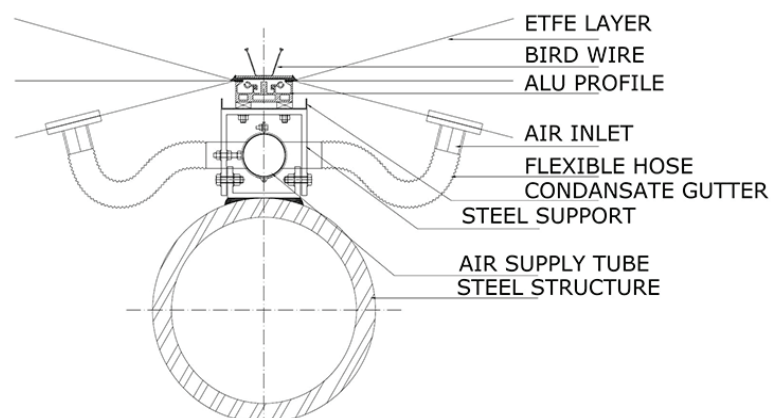
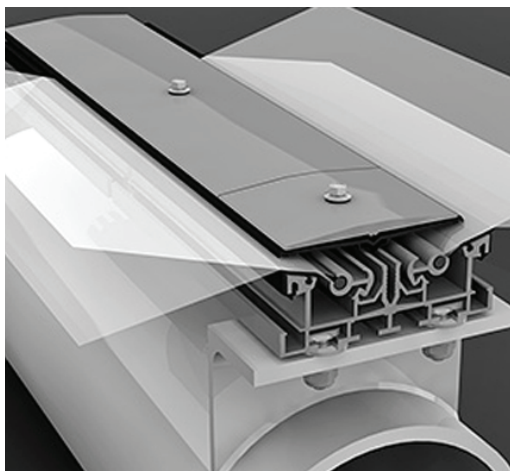


# SYSTEM CONNECTION

## THE DETAILS



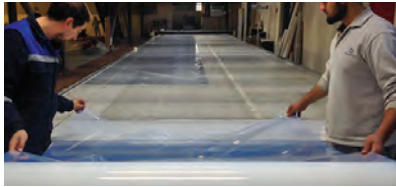
ETFE cushions, mounted on the carrier structure with special upgrading apparatus is fixed to the aluminium prof. The inside or outside of the vent pipe connected to the pressure set on cushion airflow upgrade and apparatus are provided to receive the forms prescribed inflatable cushion is provided. Repelling birds on the aluminium profile according to the option wires can be installed.





# ETFE MANUFACTURING PROCESS

## CNC CUTTING PREPARATION



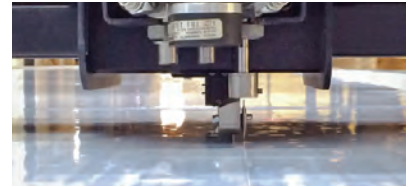
For the cutting of the formats which are delivered by the shape and the pneumatic stress qualities to be connected, ETFE movies are laid as per the cnc machine.

## SIZE OF CONTROL SETTLEMENT



Measure precise placement of controls is made to leave the material of the cutting template.

## CUT



+1mm accuracy ETFE film cutting is done

## BONDING



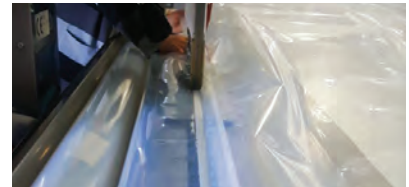
Middle of the road holding is done by the shares given in the interfered with formats. The parts are stuck all together as indicated by the layout numbers and the module estimate, in order to shape the entire outlined.

## COMBINATION OF INTERNAL ROPES



ETFE the film (single wall applications) inside pocket pasting the ropes used to increase the static strength.

## POCKET WELDING



The ETFE film (single-wall applications) edge halatlar Tallinn to pass for widely held cell paste operation.

## ROVING BONDING



The ETFE film (single wall, two wall, three-wall, four wall applications) can be mounted on the aluminum profile special extrusion for module The EPDM edge to be glued at the same time as the operation of all layers of the films.

## PREPARING FOR PACKAGING



Module dimensions, size and packaging according to the state assembly opening preparation is done.

## PACKING AND SHIPMENT



The risk of fracture and tear Material minimum to download then labeled and packaged in the form of folding module ID will not be lost on them in a way of sorting and dispatch are provided with maximum security.

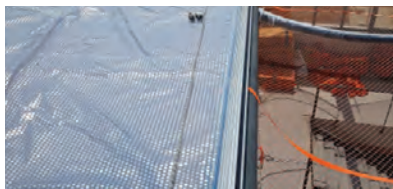
# ETFE FILM ASSEMBLY

## PROFILE LAYOUT



An aluminum profile is placed on the construction.

## COVER ASSEMBLY



It is laid over the network and the cover is mounted.

## CONTROL



The last state before the pneumatic pressure system envisaged ETFE

## INSTALLATION LAYING



Machinery and equipment will be installed.

## LAST CHECK



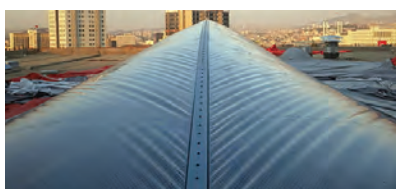
Final checks are made before inflation.

## BLOW THE BEGINNING



It starts to inflate.

## BLOW TO COMPLETE



Inflating operation is completed.

## PRESSURE BALANCE



Air pressure is balanced.

## DELIVERY



The ready-made system is checked for air leakage and delivered.

## TECHNICAL DOCUMENTS CLICK HERE

NOWOFLON ET - Architecture.pdf	0,22 MB
NOWOFLON_ET6235Z_100_natur.pdf	0,09 MB
NOWOFLON_ET6235Z_150_natur.pdf	0,09 MB
NOWOFLON_ET6235Z_200_natur.pdf	0,09 MB
NOWOFLON_ET6235Z_250_natur.pdf	0,10 MB
NOWOFLON_ET6235Z_300_natur.pdf	0,09 MB









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