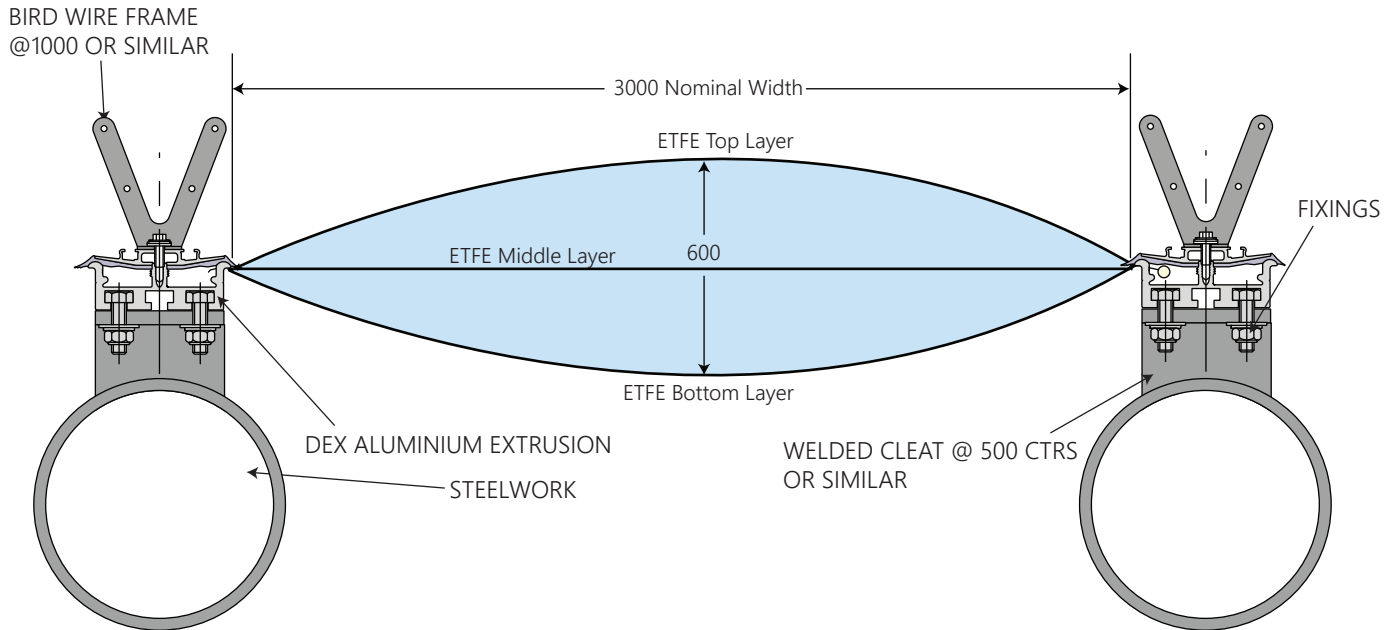




Three Layer ETFE Cushion



U Value Calculation*

Outer Membrane:	$R_{se} = 0.04 \text{ m}^2\text{K/W}$	ETFE Foil - Outer Membrane
Air chambers (<500mm):	$R_{1-2} = 0.18 \text{ m}^2\text{K/W}$	Air Chamber 1
Inner Membrane:	$R_{si} = 0.13 \text{ m}^2\text{K/W}$	Air Chamber 2
Overall heat transfer resistance (R_T):		ETFE Foil - Middle Membrane
$R_T = R_e + \Sigma(R_{1-2}) + R_i$		ETFE Foil - Inner Membrane
$= 0.04 + (0.18 + 0.18) + 0.13$		
$= 0.53 \text{ m}^2\text{K/W}$		
$U = 1/R_T$		
$= 1/0.53$		
$= 1.8 \text{ W/m}^2\text{K}$		

Overall U Value = 1.8 W/m²K

ETFE FOIL 100-300 Micron

Mass Per Unit Area	175-525 g/m ²
Tensile Strength	55 MPa
Tensile Strength @10% Strain	23 MPa
Tensile Strength At Break	550%
Tear Resistance	400 N/mm
Opacity	3-10%
Sample Width	15mm
Sample Length	100mm
Test Speed	200mm/min

Made of a copolymer extruded into thin films, this durable material can achieve light transmission up to 95%. At 1% the weight of glass, you can watch the bottom line of your project shrink as we reduce the size of steel and foundations required to support this 'floating' system. Systems range from cable supported single layer to insulated multi foil cushions. Cushions range from two to four layers – depending on the required insulation. ETFE cushions are filled with air using an Air Handling Unit (AHU). This unit's job is to maintain the pressure in the system between 200-300 Pa depending on the size of the roof. The AHU is very efficient consuming power equivalent to a 100w light bulb. Widths of panels are up to 3.5m, while lengths are infinite.

*Thermal values have been calculated generally in accordance with BS EN ISO 6946:2007