

# A-flex Elastomeric Nitrile Foam V/s Glasswool Insulation

## A-flex Nitrile Foam

## Glasswool

### FIRE RESISTANCE

Excellent fire resistance. Conforms BS-476 Part 6 & 7 Class 0 A-flex nitrile foam insulation has similar characteristics as non-combustible materials.

A-flex also performs against the new European Standards and classification system, EUROCLASS B.

Above confirms the maximum security level available in real terms of performance in case of fire.

Has same characteristics. Non-combustibility of fibrous material has no added advantage as it loses its form and structure like any Combustible material.

### WATER VAPOUR DIFFUSION

Closed cell structure of A-flex has an inbuilt water vapour barrier so ingress and outgress water vapour is negligible. The values of water vapour diffusion resistance factor is  $\geq 7000$ .

Open cell structure of glasswool hardly resist phenomenon of ingress of water vapour which occurs due to temperature difference in a heating/cooling system. Water content inside the insulation increases considerably within a very short span of time leads to poor thermal efficiency.

### THERMAL RESISTANCE

A-flex nitrile foam insulation has an excellent Thermal conductivity value which is consistent over longer period of service time. Consistency of A-flex is far superior than any fibrous low density material.

Low density of glasswool material has no advantage it rather makes the material less consistent and short lived. Thermal conductivity of material with high absorption of water increases rapidly depiction of formulae  $R = L/K$  to support high thickness and high thermal resistance is mis-leading as it does not take into account the increase in thermal conductivity on ageing.

### COST

A-flex is highly cost effective. Fast installation are possible in extreme site conditions as it does not need any support system for installation.

Glasswool products works out much expensive it need a costly support system due to fragile nature of material. Given the high cost of installation and poor thermal resistance customers pay more as hidden cost and derive very less benefit of insulation as material is prone to loose its compression resistance and cell structure. It virtually works like a wet quilt after a short span of time.

### SHELF LIFE

A-flex has a much longer shelf life than any other insulation material. The closed cell structure of material remain intact over years.

Glasswool due to its poor compression resistance loose bonded fibres has very small shelf life. This loses its thermal and mechanical properties within 180 days.

### HEALTH HAZARDS

A-flex due to its fibre free neutral nature is the most opted material for application areas like pharma units and operation theatres.

Nature of carcinogenic glassfibres are known world over. Loosely boded fibres with formal-dehyde based binder is prone to fly in the application area with air pressure. These fibres creates skin ailments and serious health problems.

### TEMPERATURE RANGE

A-flex nitrile foam insulation has a dual service temperature range from  $-200^{\circ}\text{C}$  to  $+115^{\circ}\text{C}$

The operating temperature range of glasswool i.e.  $-195^{\circ}\text{C}$  to  $450^{\circ}\text{C}$  is misleading as the phenol formaldehyde binder evaporates out at  $200^{\circ}\text{C}$  and material loses its shape and become loose lump.

### RADIATION EFFECT

A-flex can be installed outdoors with a layer of UV protection paint or glass epoxy treatment.

Glasswool needs costly metal cladding when installed outdoors. Even a good protection system can't save it from deterioration.