Elastomeric Nitrile Foam V/s Phenolic Foam

A-flex Nitrile Foam	Phenolic Foam
FIRE RESISTANCE	
Excellent Fire resistance. Conforms to BS-476 Part 6 & 7 Class 0. It has similar characteristics as non-combustible materials. Also conforms to new European Standards & classification system, Euro Class B.	Though the basic material is non-inflammable but the facings on both sides can burn. Once the facings are burnt the material crumbles.
WATER VAPOUR DIFFUSION	
The closed cell structure has an inbuilt water vapour barrier so ingress and outgress of water vapour is negligible. The values of Water Vapour Diffusion Factor is ≥ 7000.	Has a very low μ value that increases moistening which in turn increases Thermal Conductivity (k) value thus necessitating usage of higher thickness for the same operating conditions. Needs separate vapour barrier.
COST	
Soft and flexible material and can be bent to take contours. Insulation on cylindrical and round surfaces easy. Highly cost effective. Fast installations are possible in extreme site conditions as it does not need additional support systems.	Inorganic foam material with very less adhesion on its own. Craft paper used on both sides still the binding between the paper and the material is poor. On moisture attack the paper gets soft and the material crumbles. Insulation on cylindrical and round Surfaces done only by using segments resulting in uneven surfaces. Insulated surface needs external protection after installation and is finished either with sand cement plastering or Al –sheet cladding. Piping insulation comes in the form of two halves and matching is not always correct resulting in gaps at the joints leading to valuable losses. Bitumen and Primer have to be used for fixing these materials making the whole place untidy and messy besides increase in cost.
SHELF LIFE	
Has a much longer shelf life than any other insulation material. Can take expansion and contraction due to change in temperatures.	Has a much lower shelf life. It gets brittle and develops cracks due to expansion and contraction.
HEALTH HAZARDS	
Because of its fiber free neutral nature, it is most opted material for application in areas like Pharma units, Operation Theaters, Hotels, etc.	Non-ecofreindly. Produces dust and powder material.
TEMPERATURE RANGE	
The service temperature ranges from -200°C to +115°C.	The service temperature ranges from -40°C to +110°C.
RADIATION EFFECT	
Can be installed outdoors with a layer of UV protection paint or Glass Epoxy paint.	Outdoor installation not recommended.