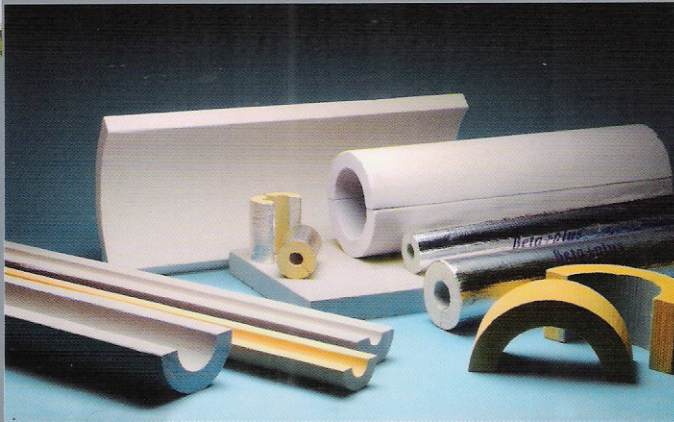
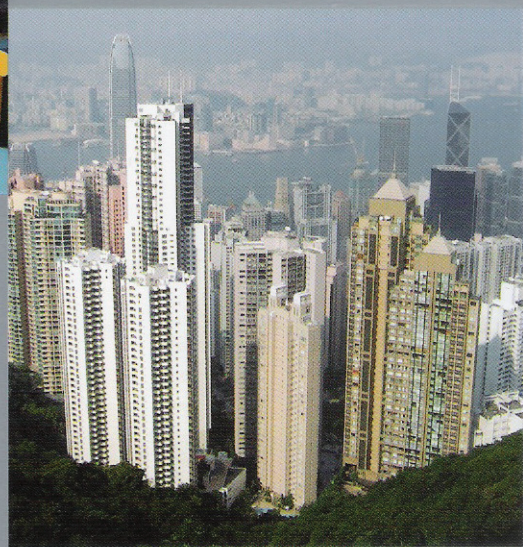




# INSULATION *Innovation*



**INSUL-PHEN**  
THE PHENOMENAL INSULATION



**RESOLCO**  
International by



**A professional organisation  
offering a single source  
for specifiers**

# INSULATION *Intelligence*

It's taken a dynamic company to bring about a major advance in high performance rigid phenolic insulation.

That company is Resolco International – a firmly established organisation whose people have years of innovative scientific experience in the laboratory, proven expertise in production techniques, and an unrivalled track record in global

sales and customer service.

The key focus for the Resolco team was to combine their experience in technical development to create an insulation material more advanced than any currently available.

The result was Insul-phen, produced in our state-of-the-art manufacturing facility in Holland

to a unique formulation.

This produces rigid blocks of a consistently uniform size and shape – free from the pin holes, voids and

cracks that often compromise the performance of other phenolics.

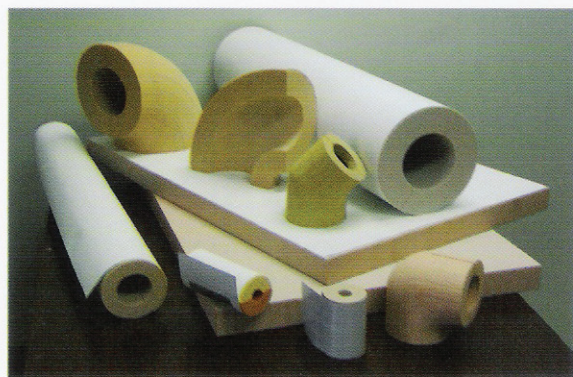
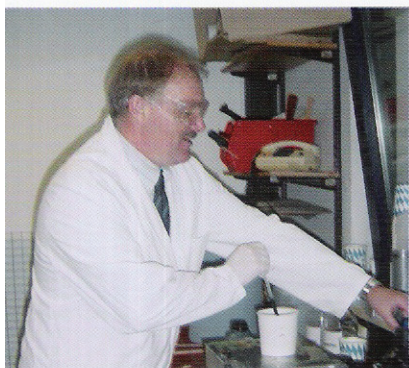
This is then fabricated into pipe sections or preformed fittings and supplied for the

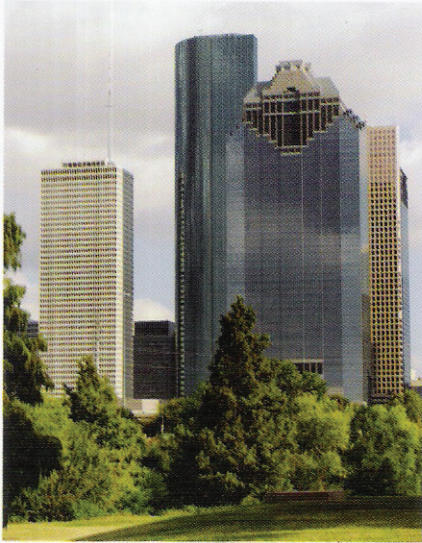
insulation of all types of building service/process pipe and ductwork

– in hospitals, offices, schools, hotels, breweries, food plants and pharmaceutical factories. It can also be supplied as sheets for use in cold store and other panel applications.

Resolco backs this with a full range of technical services to provide specifiers with guidance on all aspects of the product, its applications and compliance with relevant regulations and performance standards.

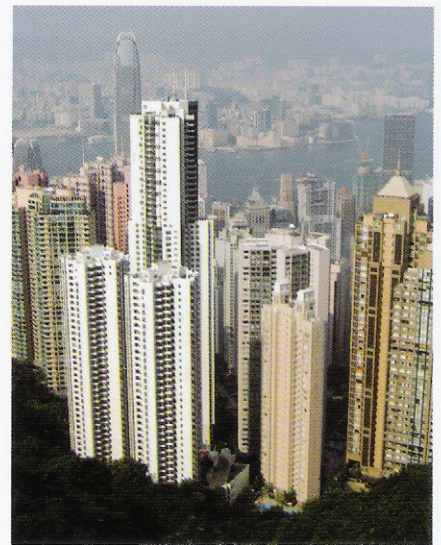
From product performance to total customer support, Insul-phen sets the new standard in advanced insulation.





#### **North America**

*Resolco has a strong presence in North America, including both the USA and Canada. This position is being enhanced by the development of strategic partnerships, which is helping to establish Insul-phen products as the first choice in insulation material.*



#### **Far East**

*The Far East, particularly China, is experiencing rapid economic growth and now becoming an increasingly important market for HVAC specialists. Insul-phen insulation products deliver the benefits of far superior performance, with the advantage of being available from local fabricators.*

# INSULATION *International*

Phenolic insulation has been used in low temperature and HVAC applications worldwide for close to 25 years, and it's now the standard specification in the UK and Hong Kong.

In North America, closed cell phenolic has been used for Chilled Water applications for over 15 years, and its use is increasing in many other parts of the world including Singapore, Ireland and the Middle East. To meet the growing global demand, Resolco operates in North America, Europe, the Middle East and the Far East.

In all of these regions there is a network of Resolco sales teams, fabricators and technical support.

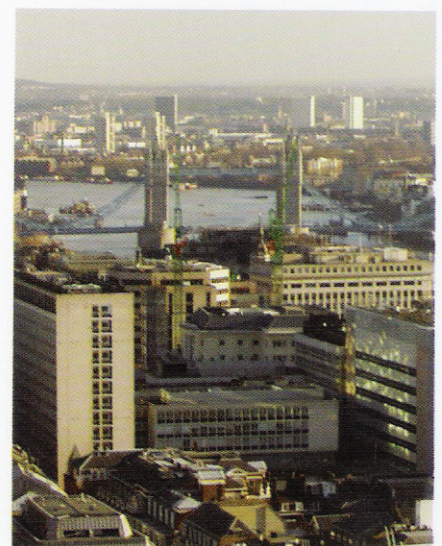
#### **Middle East**

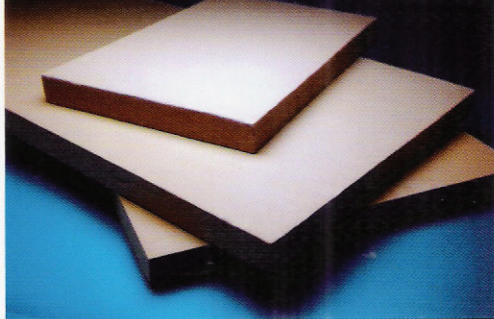
*More and more construction companies are becoming engaged in major projects in Middle Eastern countries such as Dubai. Insul-phen is seen as the ideal insulation material for applications in this region, with its energy-saving properties reducing heavy demands on local power supply.*



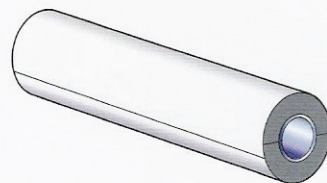
#### **UK & Europe**

*From its European headquarters and manufacturing facility in Holland, Resolco supplies Insul-phen for fabrication into insulation products to meet the increasingly stringent safety and performance standards of EC countries such as the United Kingdom.*





**Total service from manufacture  
to fabrication**

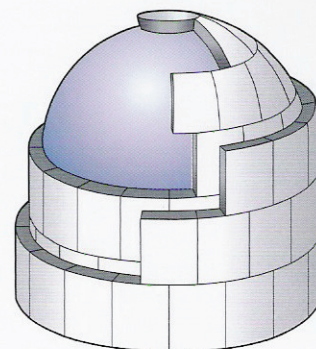
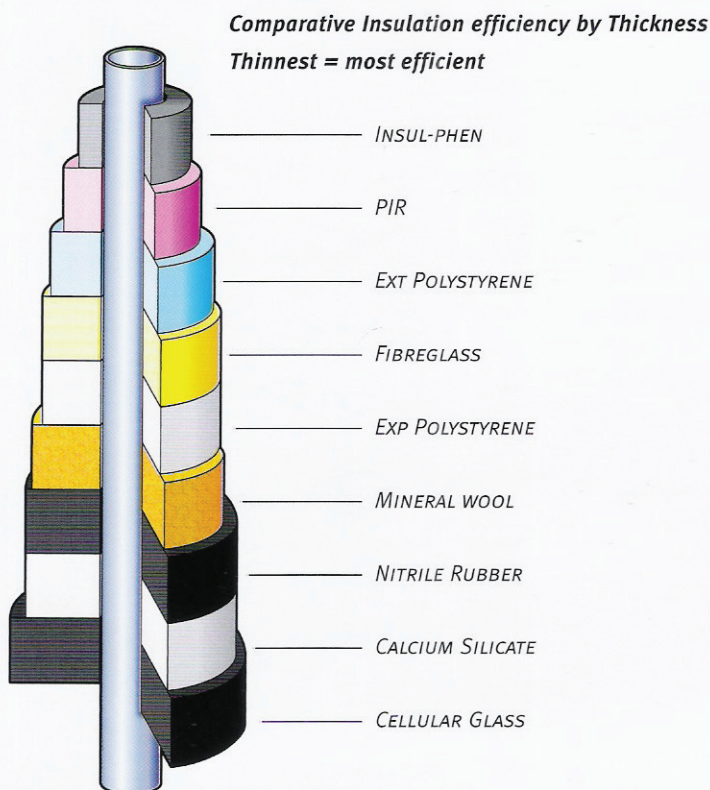
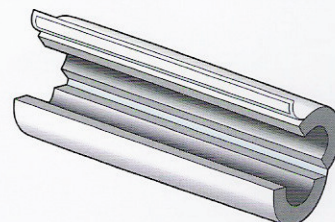
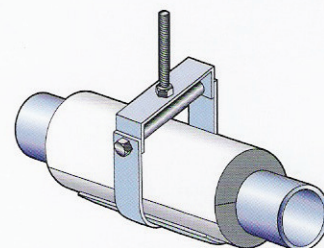
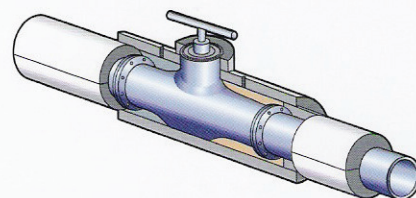


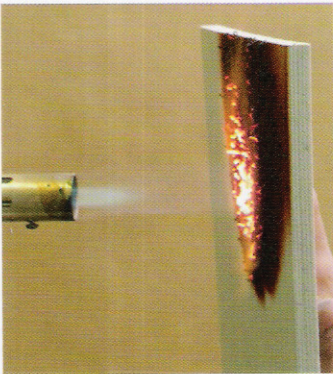
# INSULATION *Involvement*

Insul-phen is manufactured under strict quality control conditions and produced as rigid blocks in standard densities from 40kg/m<sup>3</sup> (2.5lb/ft<sup>3</sup>) to 160kg/m<sup>3</sup> (10lb/ft<sup>3</sup>). The higher density material is used specifically for the fabrication of pipe supports.

These blocks are shipped around the world to our network of approved fabricators who fabricate in to pipe sections, sheets or preformed fittings. Insul-phen can be cut to suit any pipe or vessel in any thickness – and all types of fittings including bends/elbows and vessel heads/domes.

For insulated panel applications, sheets are available in 1220mm (4ft) widths.





**Performance that beats all  
other insulation materials**

#### phen-omenal fire safety

Phenolic insulation is acknowledged as one of the safest insulation

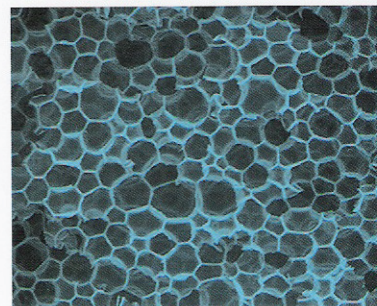
materials for use inside buildings. Now, protection moves up to a new level, with Insul-phen meeting the fire standards requirements in markets around the globe – for example, Class O to UK building regulations, and in North America achieving ASTM E84 25/50 flame and smoke rating up to 3 inch thick on faced and



a Zero Ozone Depletion rating. Insul-phen's superior insulation value also leads to an increase in energy savings, and a reduction in running costs.

#### phen-omenal moisture resistance

Condensation can compromise the effectiveness of insulating materials, a major issue in humid climates.



With some materials, moisture penetration can severely affect the thermal efficiency of the insulation. Pipes can be damaged or corroded and

## INSULATION *Ingenuity*

unfaced material.

Insul-phen's low smoke emission and the fact that it gives off virtually no toxic fumes can make a significant difference in the event of a fire – as smoke and fumes are often a greater threat to life than the fire itself.

#### phen-omenal environmental benefits

One of the most important of today's environmental concerns relates to CFCs and their effect on the ozone layer. Insul-phen, and its production process, is 100% free of CFC and HCFCs. Complying with all international standards and guidelines, it has



the building fabric also deteriorates.

The high closed cell content of Insul-phen gives it very high resistance to moisture penetration which prevents the wicking effect seen with fibrous 'open cell' type materials.



Insul-phen is normally supplied with a factory-applied aluminium foil or all service jacket (ASI) vapour barrier. This all but eliminates the possibility of moisture or moisture vapour intrusion.

#### phen-omenal insulation value

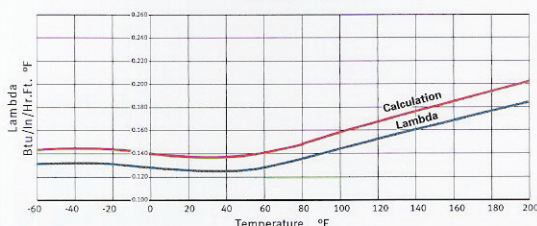
Insul-phen has the best k value/k factor/thermal conductivity of any type of commonly specified insulation material.



Its high thermal efficiency means that the actual insulation thickness is significantly lower than other materials. By saving space, this makes it much easier to run – and insulate – pipework through difficult or restricted places.




Thermal Conductivity Curve  
INSUL-PHEN 40



## Key issues to consider when specifying insulation for chilled water pipes:

- Is the material environmentally safe and compliant with international protocols – i.e. Zero ODP?
- Does the material meet local fire regulations and most importantly does it have **low flame spread** and **low smoke emission** – i.e. Class O or ASTM E84 25/50?
- Is the material closed cell – i.e. resists moisture ingress?
- Is the material thermally efficient – i.e. low K Value/Factor – saving energy and CO<sub>2</sub> emissions?

Compare Typical Insulation Materials	 CFC/HCFC Free	 Low Flame Low Smoke	 Closed Cell	 Low K
<b>Insul-phen Phenolic</b>	✓	✓	✓	✓
Fibreglass/Mineral Wood	✓	✓	✗	✗
Nitrile/Expanded Rubber	✓	✗	✓	✗
Cellular Glass	✓	✓	✓	✗
Polystyrene (EPS/XPS)	✓	✗	✓	✗
Polyisocyanurate (PIR)	✓	✗	✓	✓

Only **Insul-phen** meets all these requirements – **phen-omenal**

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