

Insulation

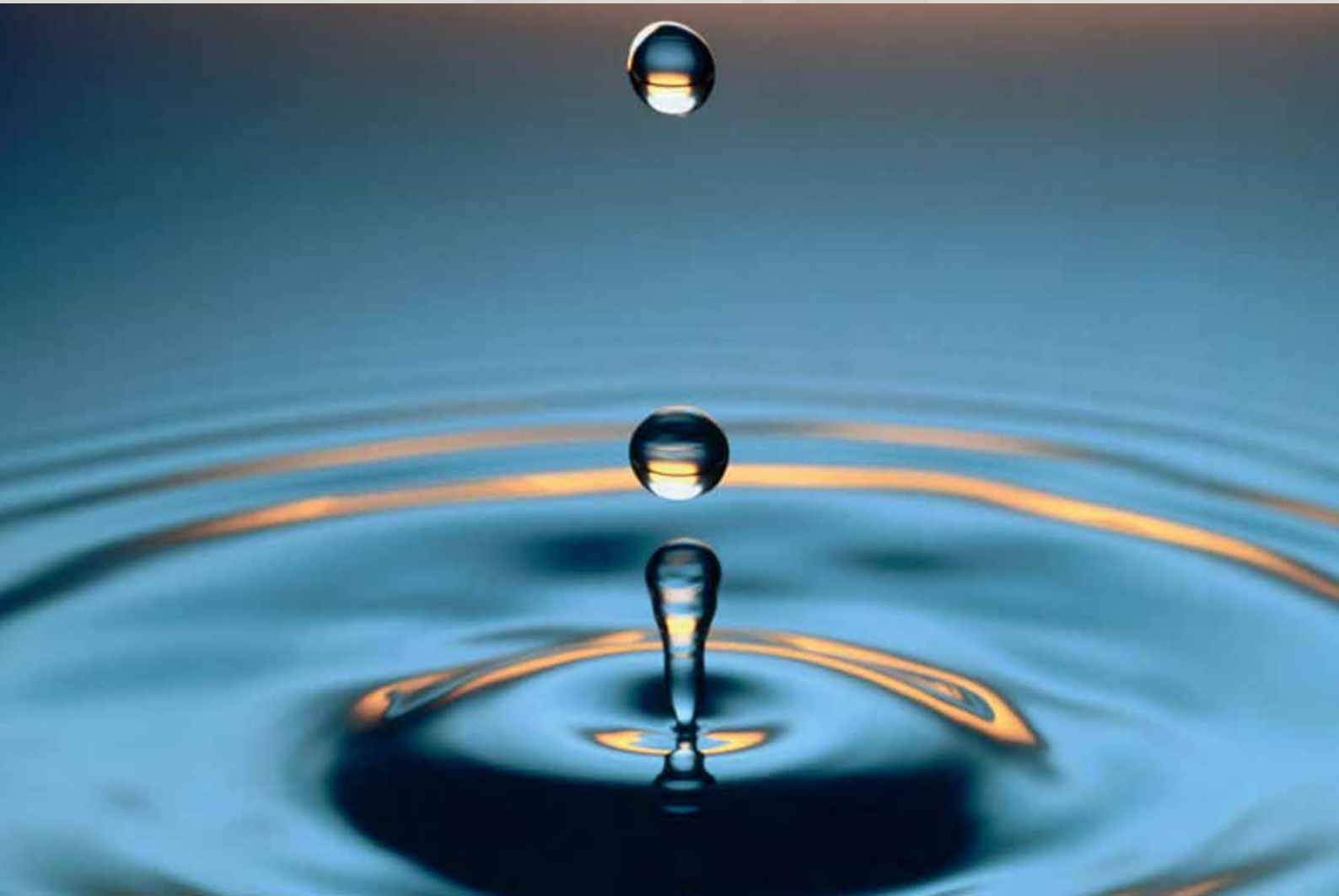


See over leaf for applicable countries

Second Issue October 2015

π Pal™ Duct Hydro System

TECHNICAL DATA SHEET



**Fibre-free
Core**




Kingspan™

*Low Energy –
Low Carbon Buildings*

Kingspan PalDuct Hydro System

Introduction

The **Kingspan PalDuct Hydro System** is an advanced and innovative pre-insulated rectangular HVAC ductwork system. It comprises **Kingspan PalDuct Hydro** panels, fabrication methods, coupling systems and a complete line of accessories to produce ductwork in sections up to 4 m long. There are two available **Kingspan PalDuct Hydro** Panels, 20PH80 and 30PH200, that can be used in the fabrication of the **Kingspan PalDuct Hydro System**.

The **Kingspan PalDuct Hydro** system uses panels which comprise a polyisocyanurate (PIR) insulation core which is water-based. The core is manufactured with a CFC/HCFC-free blowing agent and contains no formaldehyde. This manufacturing process has a zero Ozone Depletion Potential (ODP) and low Global Warming Potential (GWP).

Operating Recommendations & Limitations

It is recommended that ductwork fabricated from the **Kingspan PalDuct Hydro System** is used for operation as supply, return, fresh and exhaust air ductwork for HVAC systems within the limits shown in the table below. These limits assume that the ductwork has been fabricated in accordance with the **Kingspan PalDuct** Fabrication Guidelines.

| Property | Value | |
|---------------------|--------|---------|
| | 20PH80 | 30PH200 |
| Pressure Limit (Pa) | 1000 | 1750 |
| Air Speed (m/s) | 15 | 35 |
| Application | Indoor | Outdoor |

Ductwork fabricated from both 20PH80 and 30PH200 panels can be used in installations with temperatures ranging from -35°C to +110°C. Within this temperature range, no relevant reduction of the insulating, chemical or physical characteristics of the panel will be observed.

Application Suitability

The **Kingspan PalDuct Hydro System** is designed for use in building services / HVAC applications. It is suitable for both new build and refurbishment projects in the residential, commercial, public, light industrial and leisure sectors. It is especially suitable for use on high specification projects where insulants with a fibre-free core may be preferred, for instance:

- the food, beverage and pharmaceutical industries;
- clean air and hygiene controlled environments;
- high relative humidity environments;
- swimming pools;
- non-ferrous applications; and
- sterile areas of hospitals and communication / server rooms in data centres.

Fabrication and Installation

Ductwork fabricated from The **Kingspan PalDuct Hydro System** should only be fabricated by specially trained fabricators who have completed the specialised and comprehensive training course provided for the System.

Kingspan PalDuct Hydro Panels

Kingspan PalDuct Hydro Panels comprise a fibre-free high performance rigid thermoset water-based polyisocyanurate (PIR) insulation core, faced on both sides with an embossed aluminium foil. The aluminium foil is lacquered with corrosion resistant polymer varnish.



| Property | Value | |
|------------------------------|-------------|-------------|
| | 20PH80 | 30PH200 |
| Product Thickness (mm) | 20 | 30 |
| Panel Dimensions (mm) | 4000 x 1200 | 4000 x 1200 |
| Density (kg/m ³) | 50 ± 5 | 50 ± 5 |
| Thermal Conductivity (W/m·K) | 0.020 | 0.020 |



Compliance

Kingspan PalDuct Hydro panels comply with the British and American Standards shown in the table below.

| Property | Classification / Value | Standard |
|--|------------------------------|--|
| Fire Propagation Index | Class 0 | BS 476 Part 6 |
| Surfaces Spread of Flame | Class 0 | BS 476 Part 7 |
| Flame Spread Index and Smoke Developed Index | Class A | ASTM E 84, NFPA 255, UL 723, NFPA 101 Life Safety Code |
| Reaction to Fire | Euroclass C _s 2d0 | EN 13501-1 |
| Volatile Organic Compounds | Pass | U.S. EPA 8260B |
| Water Absorption Level | 0.5% - 24 hours immersion | ASTM C209 |

Kingspan Insulation reserves the right to amend product specifications without prior notice. The information contained in the document is given in good faith and applies to the uses described. Recommendations for use should be verified as to the suitability and compliance with actual requirements, specifications and any applicable laws and regulations. Kingspan Insulation recommends using the Technical Advice service.



Kingspan Insulation LLC

P.O. Box 113826, Dubai Investment Park 2, Dubai, U.A.E.
Tel: +971 4 889 1000 Fax: +971 4 883 8515
info@kingspaninsulation.ae

www.kingspaninsulation.com

Countries comprise: all of Africa; South and Central America; the Caribbean; the Middle East and Asia as far north and east as (and including) Turkey, Georgia, Azerbaijan, Kazakhstan, Kyrgyzstan, Afghanistan, Pakistan, India, Nepal, Bhutan and Bangladesh.

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