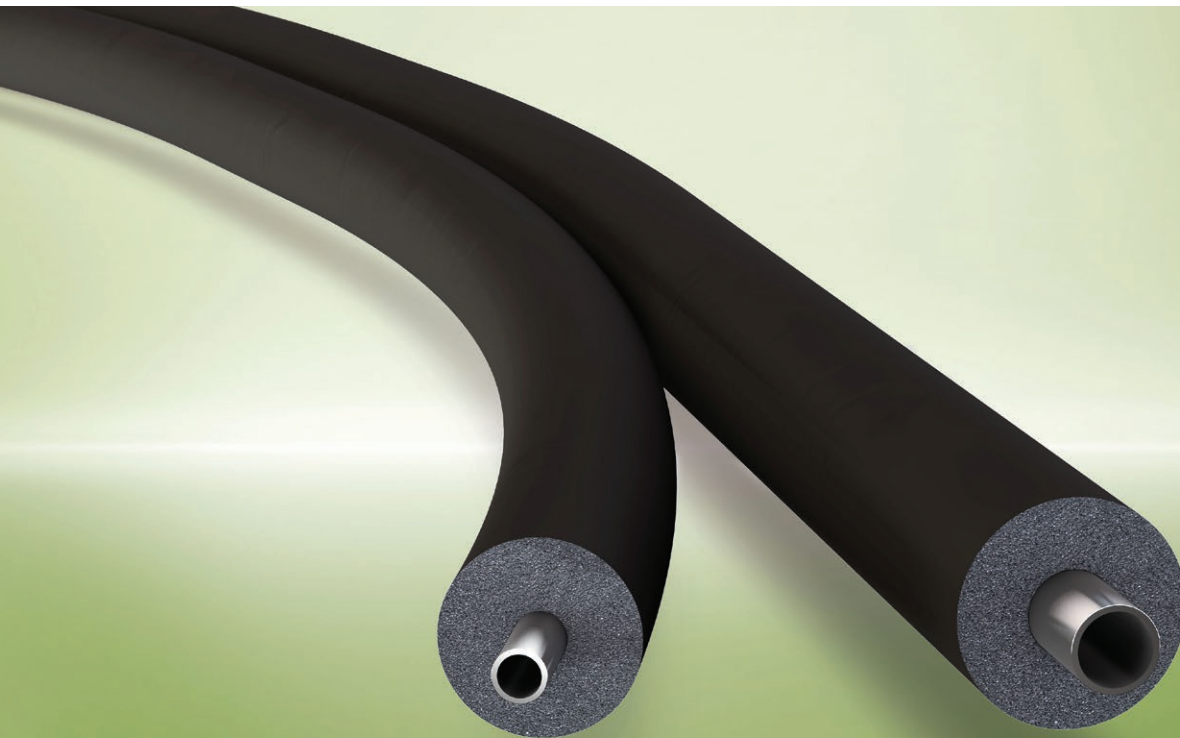


Armaflex®
Kühlpair

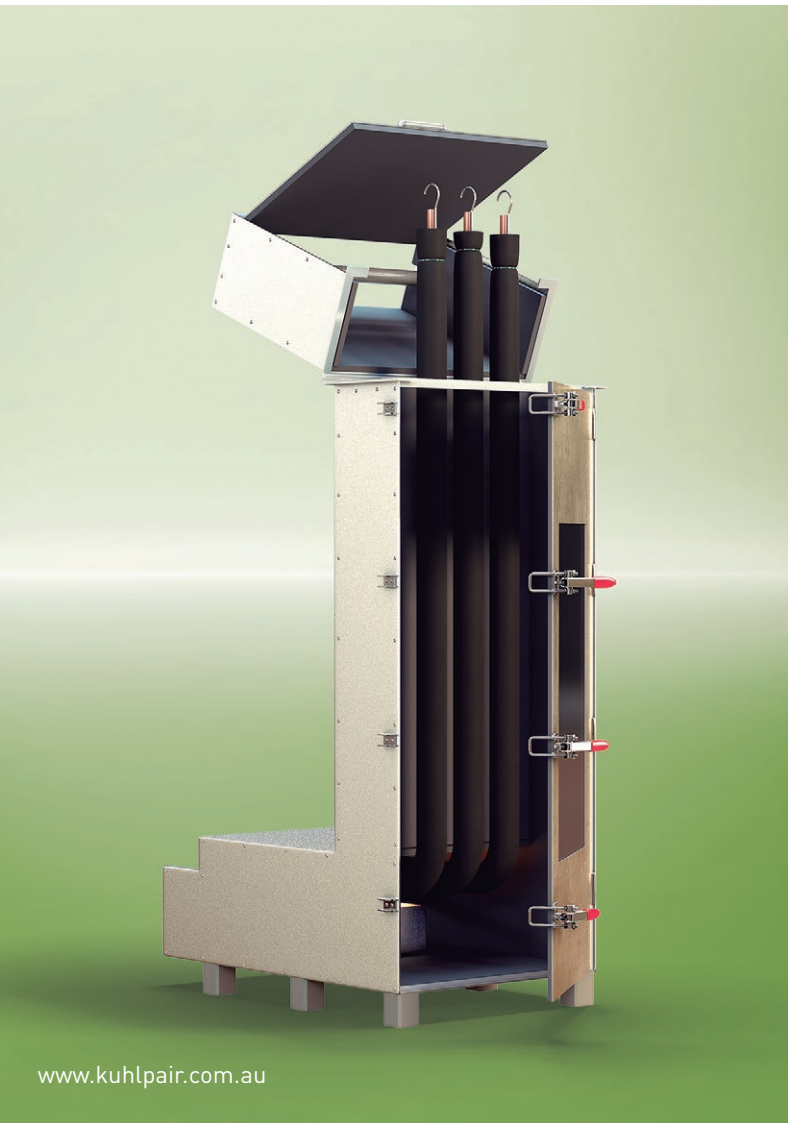
PRE-INSULATED PIPES FOR RAPID
AND RELIABLE INSTALLATION OF
AIR-CONDITIONING SYSTEMS

NEW



- Complies with BCA fire hazard requirements
- Complies with AS/NZS 4859.1 insulation standard
- Pipes comply with AS/NZS 1677.2 as tested to 3 times the saturation pressure of R410a refrigerant
- Thick insulation for maximum condensation control
- Genuine Armaflex® insulation; German technology, manufactured in Australia
- Tough polymer skin for abrasion protection & weather resistance
- Revolutionary Reflok connector system for secure joins and prevention of refrigerant leak
- Meets Green Star criteria for insulant ODP

FIRE RATED INSULATION

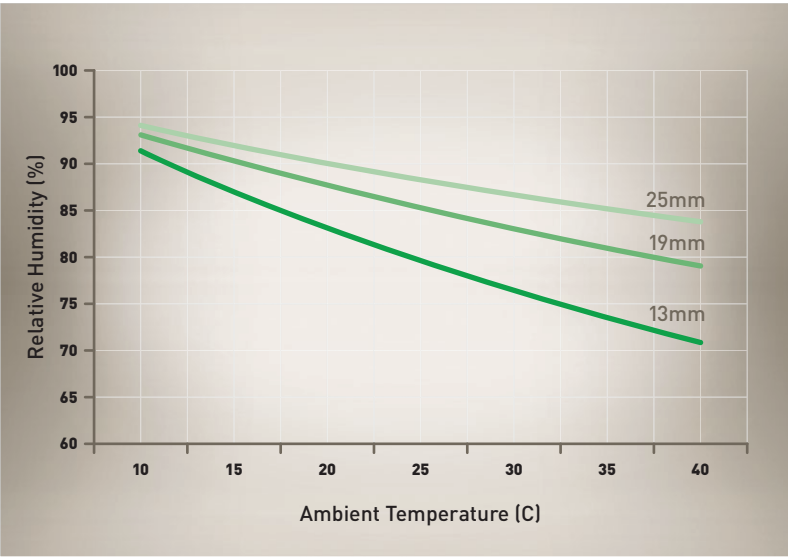
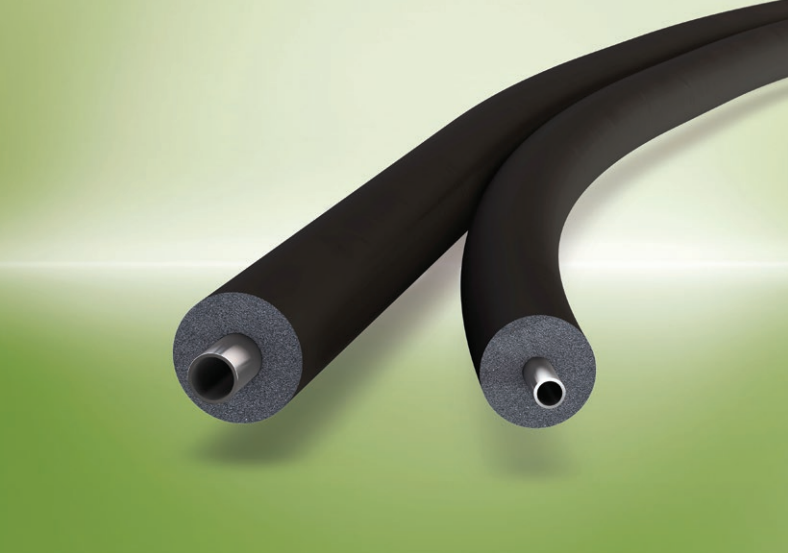


THE BUILDING CODE OF AUSTRALIA (BCA)

- Armaflex K hlpair is tested and certified for compliance with the fire hazard requirements of the BCA
- Commercial and multi-residential buildings must comply with the BCA (Volume 1)
- The BCA includes specific requirements for the fire hazard properties of materials and assemblies
- BCA Specification C1.10 requires that materials are tested to the AS/NZS 1530.3 standard
- Many pre-insulated pipe systems, also known as “pair-coil” are designed for use in single-dwelling residential houses and not designed to meet BCA requirements for commercial or multi-residential buildings

TOUGHER FIRE TESTING FOR INCREASED SAFETY

- The BCA sets minimum performance requirements of materials, and does not always account for all installation conditions
- The AS/NZS 1530.3 testing required by the BCA is a single test method, using small samples, and does not provide a full assessment of fire hazard under all fire conditions
- The AS/NZS 1530.3 test alone does not ensure fire safety
- Full-scale tests with large samples can provide more comprehensive assessment of fire hazard
- “Pipe chase” tests can assess how insulated pipes behave in confined spaces more typical of how pair-coil is installed
- One test, the NFPA274, simulates one of the most severe conditions that can be found in a building: a fire involving multiple insulated pipes in a confined vertical configuration
- The NFPA 274 test simulates a small, growing fire that escalates and may be anticipated when combustible materials burn within a vertical chase or a confined ceiling cavity or plenum
- Armaflex FRV, the insulation foam used in K hlpair, has been tested in accordance with NFPA274 and passed the recommended performance criteria for this standard
- The recommended pass criteria for NFPA 274 includes limits for the Maximum Heat Release, Total Heat Release, Total Smoke Release and extent of flame.



HIGH-THICKNESS INSULATION

SEVERAL THICKNESS OPTIONS AVAILABLE

- 13mm for moderate climates
- 19mm for areas of high humidity & temperature
- 25mm for extreme conditions with high-condensation risk
- For economical and practical reasons, 25mm K hlpair is supplied with 25mm-insulation on the larger pipe (suction line) and 19mm on the smaller pipe (liquid line)

EXCELLENT CONDENSATION CONTROL

- The adjacent graph provides a guide to choosing insulation thickness for K hlpair
- The lines represent dew point on a 5°C pre-insulated K hlpair pipe (%)
- For each insulation thickness, condensation will be controlled for all temperature and humidity levels that are below the line
- For more information, a detailed technical bulletin is available from Armacell Australia

BCA COMPLIANT R-VALUES

- BCA Volume 1 has insulation requirements as part of Section J for Energy Efficiency
- BCA Specification J5.4, Table 2b, covers refrigerant piping for sizes of 15mm (5/8”) size or larger
- The suction line of an air-conditioner running 410a refrigerant in cooling mode would have a typical temperature of 2°C to 5°C (after the expansion valve).
- Table 2b requires that refrigerant pipes of 2°C to 20°C must be insulated the same as cooling water (Table 2a)
- The most arduous R-values are needed for locations outside a building or in unenclosed floors and roof spaces:
 - R1.2 is needed for climate zones 1, 2, 3 and 5.
 - R0.8 is needed for climate zones 4, 6, 7 and 8.
- 19mm K hlpair achieves R > 0.8 on 15mm & 20mm pipes
- 25mm K hlpair achieves R > 1.2 on 15mm & 20mm pipes

HIGH-PERFORMANCE FITTINGS

QUALITY ALUMINIUM PIPE



REFLOK® CONNECTION SYSTEM

- High-performance connection system specifically designed for use with aluminium pipes
- Reflok does not use soldering, welding, brazing, or epoxy to create the joint. A Reflok connection is made when a connector is compressed using the Reflok cordless tool
- Fittings provide a permanent, mechanical compression seal that provides security to minimise the occurrence of refrigerant leaks
- Designed and manufactured in the UK to high quality standards
- For more information see: www.reflok.com

PRESSURE CERTIFIED PIPES AND FITTINGS

- Pressure tested by Vipac Engineers & Scientists, Melbourne, to assess the performance of Kuhlpair®'s aluminium pipe and Reflok® connectors
- Pressure tested for pipes and fittings in 1/4", 3/8", 1/2", 5/8" and 3/4" sizes
- Tested to AS/NZS 1677.2:1998(+A2) Refrigeration Systems - Safety requirements for fixed applications
- Clause 3.2 of this standard covers Component Design Pressure, and requires that components must withstand not less than 3 times the design pressure for a minimum of 1 minute at a temperature of not less than 59°C.
- The saturation pressure of R410a at 60°C was used as the basis for design pressure to test the systems durability
- Both the aluminium pipe and connectors were shown to conform to the standard. Copies of Test Certificates are available on request



PURPOSE-BUILT FOR ALUMINIUM

- Coupling manufactured with a unique dielectric coating. This allows the fitting to join dissimilar metals without the risk of galvanic corrosion
- The coupling replaces traditional brass fittings that cannot be used to join copper to aluminium pipes
- Full range of sizes available from 1/4" up
- Available as straight fittings and as flare connectors



INNOVATIVE SOLUTIONS

TOOL KITS FOR FITTINGS

TOUGH SKIN FOR MAXIMUM DURABILITY

- Innovative polymer skin system, co-extruded onto the Armaflex® foam
- Designed for protection from mechanical impact and abrasion resistance
- Provides weather protection for exterior applications
- Prevents damage to insulation from bird attack
- High flexibility to maintain ease of installation and inherent flexibility of Armaflex®
- Wash-down waterproof and easy to clean
- Fire-retardant coating to limit spread of flame and smoke, and maintain conformance to BCA requirements

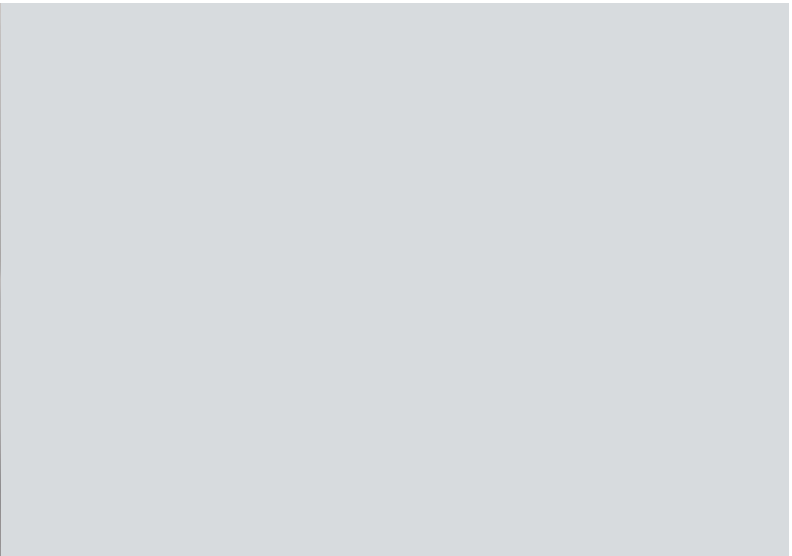
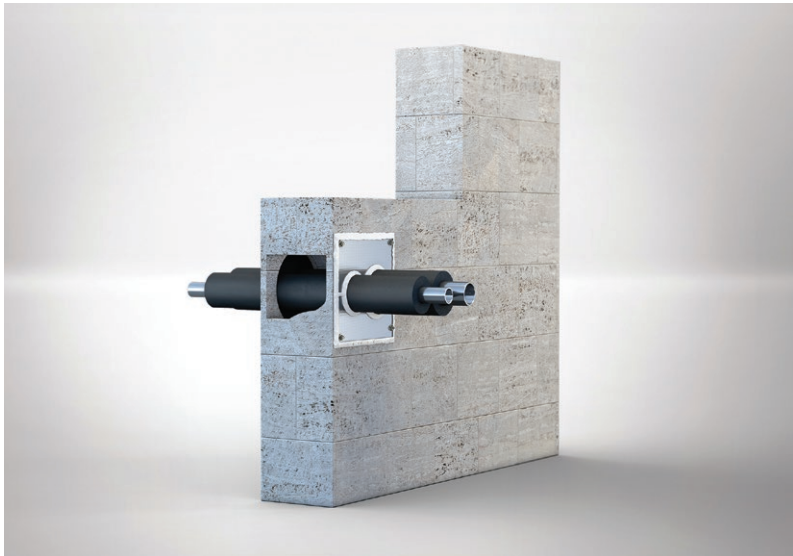
CERTIFIED FIRE PENETRATIONS

- The ArmaProtect™ 120 system provides a solution for service penetrations with Armaflex Kühlpair through Common Walls and Fire Walls.
- Tested and certified to AS 1530.4, with an FRL result in masonry walls of -/180/120.
- In accordance with BCA Vol.1, 2013, Part C, suitable for:
 - (1) All single storey buildings for all building classes
 - (2) All multi-residential buildings (classes 2 & 3) and dwellings in other buildings (Class 4), regardless of number of storeys.
 - (3) All Class 9 buildings, such as aged care facilities, regardless of number of storeys. All office buildings (Class 5), regardless of number of storeys.
 - (4) Shops (Class 6) and factory buildings (Class 8) up to and including 2-storeys in height (Type C construction).



REFLOK HAND-HELD ELECTRIC TOOL

- 2 year warranty
- Makita battery, with charger that will charge fully from flat in approximately 20 minutes
- Built in light to illuminate the fitting and pipework
- Inbuilt Hydraulic Pressure Check system (HPC) monitors oil pressure within the tool ensuring consistent performance
- Tool heads have a 'catcher' retaining system so that the interchangeable heads are secured
- Tool heads can be fitted on top, or on the sides of the head to allow installation at any angle
- Incorporates an automatic retraction system that returns the head to its starting position when maximum operating pressure (ie completion of the joint) is reached
- 'Quick Stop' feature - tool head travel stops immediately when trigger is released
- Release button on back of trigger to return head to fully open position
- LED Indicator light to indicate service intervals and trouble-shooting codes
- Tool kit packed in heavy duty, impact resistant durable carry case
- Tool kit includes fittings for conventional drills for preparation of pipe ends



PRODUCT RANGE

13mm Insulation Thickness 18m Coil Length		19mm Insulation Thickness 18m Coil Length		25mm Insulation Thickness 15m Coil Length	
Pipe sizes	Product code	Pipe sizes	Product code	Pipe sizes	Product code
6 x 10mm (1/4" x 3/8")	AKP-13-0610/E18	6 x 10mm (1/4" x 3/8")	AKP-19-0610/E18	6 x 10mm (1/4" x 3/8")	AKP-25-0610/E15
6 x 12mm (1/4" x 1/2")	AKP-13-0612/E18	6 x 12mm (1/4" x 1/2")	AKP-19-0612/E18	6 x 12mm (1/4" x 1/2")	AKP-25-0612/E15
6 x 15mm (1/4" x 5/8")	AKP-13-0615/E18	6 x 15mm (1/4" x 5/8")	AKP-19-0615/E18	6 x 15mm (1/4" x 5/8")	AKP-25-0615/E15
10 x 15mm (3/8" x 5/8")	AKP-13-1015/E18	10 x 15mm (3/8" x 5/8")	AKP-19-1015/E18	10 x 15mm (3/8" x 5/8")	AKP-25-1015/E15
10 x 20mm (3/8" x 3/4")	AKP-13-1020/E18	10 x 20mm (3/8" x 3/4")	AKP-19-1020/E18	10 x 20mm (3/8" x 3/4")	AKP-25-1020/E15

Flare Connectors for Aluminium Pipe

Pipe sizes	Product code
6mm (1/4")	AKP-ALFLARE-06
10mm (3/8")	AKP-ALFLARE-10
12mm (1/2")	AKP-ALFLARE-12
15mm (5/8")	AKP-ALFLARE-15
20mm (3/4")	AKP-ALFLARE-20



Straight Tube Couplings for Aluminium Pipe

Pipe sizes	Product code
6mm (1/4")	AKP-ALCOUPL-06
10mm (3/8")	AKP-ALCOUPL-10
12mm (1/2")	AKP-ALCOUPL-12
15mm (5/8")	AKP-ALCOUPL-15
20mm (3/4")	AKP-ALCOUPL-20



Armacell Australia Pty Ltd.

13-17 Nathan Road • 3175 • Dandenong • Victoria • Australia
Phone: (03) 8710 5999 • Fax: (03) 8710 5900
www.armacell.com.au • info.au@armacell.com

Sydney Distribution Centre

Unit 2/4 Avalli Road • 2170 • Prestons • NSW • Australia
Phone: (02) 9826 6900 Fax: (02) 9607 6585

Perth Distribution Centre

Air Road Pty Ltd • 24 Miles Road • 6105 • Kewdale • WA • Australia