

BENEFITS WHEN COMPARED TO OUR STANDARD FLEXIBLE DUCT**

GREENDUCT™
PRODUCTS ARE UP TO 175%*
MORE THERMAL EFFICIENT
THAN OUR STANDARD
FLEXIBLE DUCT**

>> GREENDUCT™

Reduces energy usage

>> GREENDUCT™

Reduces green house emissions

>> GREENDUCT™

Reduces running costs year after year

>> GREENDUCT™

Achieves desired home comfort
levels faster

>> GREENDUCT™

Reduces heating / cooling unit
operating times prolonging unit life

>> GREENDUCT™

Made in Australia

>> GREENDUCT™

has a 10 year product warranty

The marginal additional cost of
GREENDUCT™ in comparison to the
total cost of a new ducted system can pay
for itself again and again via reduced running
costs over the life of the system.

*Data provided by Autex Pty Ltd

**Standard flexible duct refers to Tradeflex R1 0.6

WHAT IS FLEXIBLE DUCT AND HOW DOES IT WORK?

Flexible ducts are the hidden tubes that snake around roof spaces or below floors that deliver air from heating and or cooling units to air outlets throughout thousands and thousands of Australian homes.

When you consider **flexible duct is 97% of the air delivery system of your heating/cooling system**, as much thought should go into which duct you buy as to which heating and or cooling unit you buy.

There are 2 main types of flexible duct:

- Mechanically Locked Duct
- Glued Duct

MECHANICALLY LOCKED DUCT - UNILOK - GREENDUCT™

GREENDUCT™ is a mechanically locked duct made by 2 strips of 100um thick low density polyethylene (Similar to black builders plastic) being mechanically pressed together by a steel clamping rib over a spirally wound stiffening wire that locks all the components together to form a continuous tube or duct. (see diagram A)

The Mechanically Locked Flexible Duct core of **GREENDUCT™** is called **“Unilok”** and has won an **Australian Design Mark and a Consensus Manufacturing Award for its innovative design and inherent inbuilt strength**. The steel clamping rib acts like an external skeleton that maintains the correct internal duct diameter even on the tightest bends, unlike glued ducts.

GLUED DUCT - TYPICAL OF MANY DUCTS ON THE MARKET TODAY

Glued duct is made by glueing 2 strips of Ultra thin 12um P.E.T (same material as foil food wrappers, like a potato chip packet) either side of spirally wound wire continuously to form a seamless tube or duct. (see diagram B)

WHAT IS INSULATION AND HOW DOES IT WORK?

Insulation is the thermal barrier between hot and cold surfaces. E.g. an esky is the thermal insulation barrier between the hot summer day on the outside and the cool drinks on the inside. Likewise a doona is the thermal insulation barrier keeping the cold winter's night on the outside and you wrapped up warmly inside it. **Products that have effective thermal insulation are better at keeping cold where you want cold and hot where you want hot. Flexible duct is wrapped in a thermal insulation blanket. Flexible duct with thermally efficient insulation is less susceptible to Heat Gain and Heat Loss,** (which is explained later in this brochure).

A ducted system with insufficiently insulated duct will have to operate longer to achieve your desired room temperature. This is similar to installing an undersized unit, i.e. the unit can't cope with the job it is being asked to do, in turn adding to your running costs year after year whilst creating unnecessary greenhouse gas emissions and also wasting our nations precious energy resources.

HOW IS INSULATION THERMAL PERFORMANCE MEASURED?

“R” RATINGS AND “RT” RATINGS, WHAT IS THE DIFFERENCE?

An “R” rating for Flexible Duct is a thermal rating on the insulation blanket itself. This means the insulation blanket itself used on a Flexible Duct has a stand alone “R” value or Thermal Value.

An “RT” rating for Flexible duct is a combination of the Thermal Values of the insulation blanket and the outer duct jacket added together to give you an overall thermal value “RT” for all the components of an assembled insulated flexible duct.

COMPARE **GREENDUCT™** PRODUCTS TO OTHER FLEXIBLE DUCT

GREENDUCT™ R^T 1.65 ULTIMATE

(Suitable for tropical & alpine applications)

Mechanically locked "Unilok" duct core	= R	0.0
Polyester insulation blanket 90mm thick	= R	1.5*
Green P.E.T outer duct jacket	= R	0.15

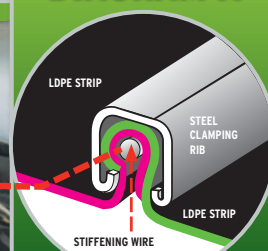
R^T (OVERALL THERMAL VALUE) = R^T1.65

**175%* MORE
THERMAL EFFICIENT
THAN WESTAFLEX
R^T 0.6 STANDARD.**

R^T EXCEEDS AUSTRALIAN
BUILDING CODE (BCA 2009)
THERMAL REQUIREMENTS



DIAGRAM A



Sectional view of "UNILOK"
mechanically locked duct
construction

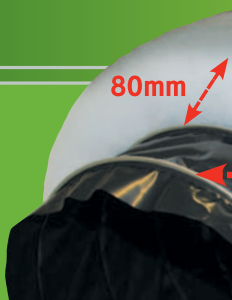
GREENDUCT™ R^T 1.4 SUPERIOR

Mechanically locked "Unilok" duct core	= R	0.0
Polyester insulation blanket 80mm thick	= R	1.25*
Green P.E.T outer duct jacket	= R	0.15

R^T (OVERALL THERMAL VALUE) = R^T 1.4

**142%* MORE
THERMAL EFFICIENT
THAN WESTAFLEX
R^T 0.6 STANDARD.**

R^T EXCEEDS AUSTRALIAN
BUILDING CODE (BCA 2009)
THERMAL REQUIREMENTS



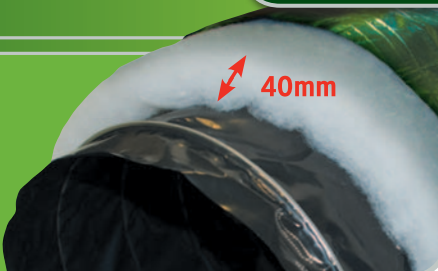
GREENDUCT™ R^T 0.75 PREMIUM

Mechanically locked "Unilok" duct core	= R	0.0
Polyester insulation blanket 40mm thick	= R	0.6*
Green P.E.T outer duct jacket	= R	0.15

R^T (OVERALL THERMAL VALUE) = R^T0.75

**25%* MORE
THERMAL EFFICIENT
THAN WESTAFLEX
R^T 0.6 STANDARD.**

R^T EXCEEDS AUSTRALIAN
BUILDING CODE (BCA 2009)
THERMAL REQUIREMENTS



WESTAFLEX R^T 0.6 STANDARD

Glue duct core	= R	0.0
Polyester insulation blanket 40mm thick	= R	0.45*
Silver P.E.T outer duct jacket	= R	0.15

R^T (OVERALL THERMAL VALUE) = R^T 0.6

R^T MEETS

AUSTRALIAN
BUILDING CODE
(BCA 2009)
THERMAL
REQUIREMENTS

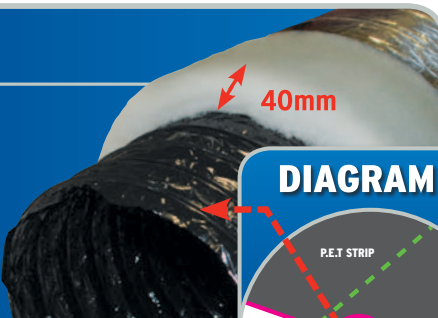
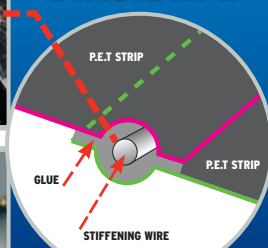


DIAGRAM B



Sectional view of glued
duct construction

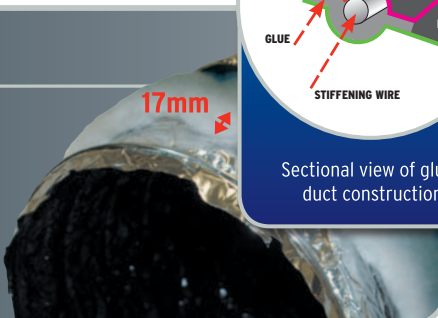
EXAMPLE OF GLUED DUCT ON THE MARKET

Glue duct core	= R	0.0
Polyester insulation blanket 17mm thick	= R	0.33*
Silver P.E.T outer duct jacket	= R	0.15

R^T (OVERALL THERMAL VALUE) = R^T0.48

**R^T DOES
NOT MEET**

AUSTRALIAN
BUILDING CODE
(BCA 2009)
THERMAL
REQUIREMENTS



ASK YOUR CONTRACTOR TO SHOW YOU A SAMPLE OF THE DUCT THEY ARE PROPOSING TO PUT IN YOUR HOME.

*Data provided by Autex Pty Ltd

***"Westaflex R^T 0.6 standard" refers to "Tradeflex R^T 0.6".

COOLING SYSTEMS AND HEAT GAIN IN DUCT

POORLY INSULATED DUCT = HIGHER RUNNING COSTS

On a **hot 40° day** the temperature in a roof space can get to **55°-70°C**. Most ducted A/C units are installed into roof spaces and blow **cold** air into flexible duct between **14-16°C**. It is the job of the insulation surrounding the duct to keep the air inside it as **cold** as possible thus avoiding temperature increase (**heat gain**) as the air travels through the duct to all vents in your system.

GREENDUCT™ = **LOWER RUNNING COSTS.

HEATING SYSTEMS AND HEAT LOSS IN DUCT

POORLY INSULATED DUCT = HIGHER RUNNING COSTS

On a **cold 0-5°C day or night** the temperature in a roof space or under a floor is about the same as outside **0-5°C**. Most ducted heating units blow **hot** air into the flexible duct at **around 60°C**. It is the job of the insulation surrounding the duct to keep the air inside it as hot as possible thus avoiding temperature decrease (**heat loss**) as the air travels through the duct to all vents in your system.

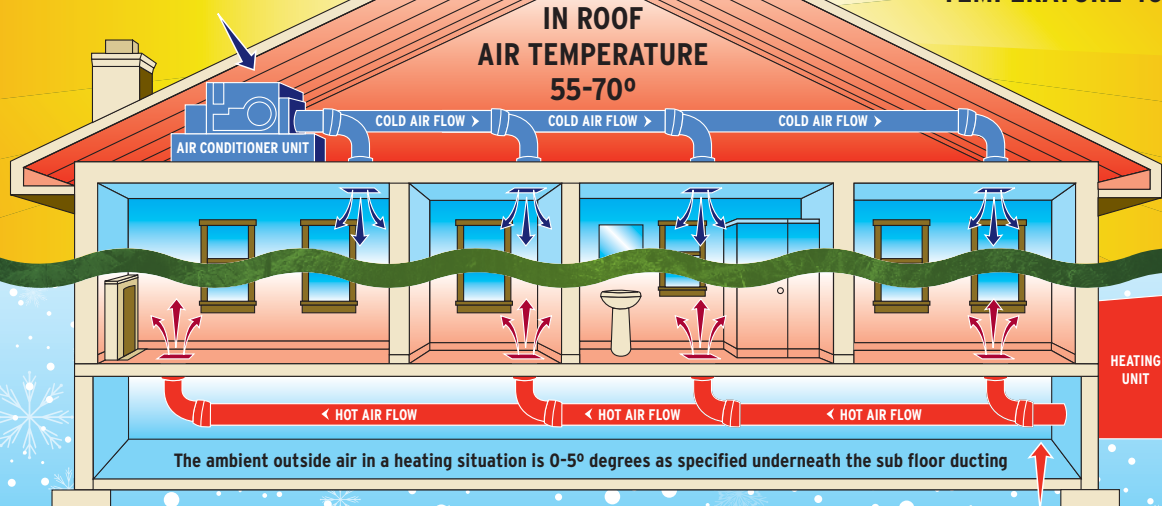
GREENDUCT™ = **LOWER RUNNING COSTS.

IN A COOLING SITUATION

INSIDE DUCT AIR TEMPERATURE
AT UNIT 14-16°

IN ROOF
AIR TEMPERATURE
55-70°

OUTSIDE AIR
TEMPERATURE 40°



IN A HEATING SITUATION

INSIDE DUCT AIR
TEMPERATURE AT UNIT 60°

>> GREENDUCT™ PRODUCTS

- >> Made in Australia
- >> Exceeds BCA 2011 (Building Codes of Australia) Thermal requirements
- >> Complies to AS4589.1 Thermal Tests
- >> Complies to AS4254 Fire and Mechanical Tests
- >> Test Reports, BCA 2011 Requirements and BCA 2011 zone maps are available from all Westaflex / Uniflex outlets
- >> Available in Acoustic

**When compared to our standard duct



www.westaflex.com.au



westaflex
THE AUSTRALIAN Air FORCE

