



# Steel as Sustainable Products

BlueScope Lysaght has been providing solutions for the world's most demanding developments.



By: Susanto- President Director of BlueScope Lysaght

# BlueScope and PT NS BlueScope Lysaght Indonesia

- Leading global provider of steel building products and solutions
- One of the richest brand heritage in steel
- 100 manufacturing facilities and 50 roll-forming network worldwide
- 21,000 employees worldwide and Operations in 17 countries- 45 years in Asia



## **PT NS BlueScope Lysaght Indonesia**

- Previously Known as: BRC Lysaght (1973)
- Main Player of roll-formed products
- Consistently Pioneering flat steel roll-formed products, metal roof, truss, deck,
- Have 7 Factories in 7 Sites in Indonesia



## Sustainability of Steel- Key Facts



1. Steel is 100% RECYCLED material.
2. Steel can be REUSED over and over again.
3. Steel **with Thermatec®** technology can reduce energy in building
4. BlueScope Steel products can help accrue points both directly and indirectly in achieving green building ratings.

# Sustainability Environment

Sustainability is **NOT** just about energy efficiency.

While how a product is created is important, it is important to consider:

1. How it is used over its life
2. How it is disposed of at the end of that life



# Steel Life Cycle

## Cradle to Gate

1. Manufacturing
2. Materials & Transport
3. Product Innovation



## Use

4. Use in Construction
5. Building and Maintenance



## End of life

6. Reuse
6. Recycling



# 1. Manufacturing: Plant Innovation

## **Industrial Ecology: Material Efficiency ↑ 99%**

- Gas recycling to power coke ovens: 80% from Blast Furnace gas; 20% from coke oven gas
- Slag: recovered and reused as input to concrete industry
- Airborne iron units: captured and reused; input to concrete industry; small proportion waste
- Regenerative thermal oxidiser: paintline gases → energy

## **On-site safety**

- All injuries are preventable
- Share our safety beliefs with our customers

## **Ecosystem Ecology**

- Port Kembla Steelworks Frog Ponds
- Western Port *Land for Wildlife*



## 2. Materials and Transportation

- Steel is lightweight.
- Reduces transportation cost
- Reduce Energy consumption.

Roofing Material	Unit Mass kg/m <sup>2</sup>
Concrete Roof Tiles	44
Fibre cement roofing @ 6 mm	19
Hardwood roofing @ 10 mm	8.5
<b>Steel roofing @ 0.6 mm</b>	<b>6</b>
Tercotta roof tiles	49

	STEEL Roof Cladding	TERRACOTTA Tiles
Unit Mass	<b>6 kg/m<sup>2</sup></b>	<b>49 kg/m<sup>2</sup></b>
Area to be covered	<b>2,000 m<sup>2</sup></b>	<b>2,000 m<sup>2</sup></b>
Total Mass to be Transported	<b>12,000 kg</b>	<b>98,000 kg</b>
No of Trip of 40ft Trailer Truck (Safety Load = 15MT per trip)	<b>1</b>	<b>7</b>



### 3. Product Innovation

- **Light weight – high tensile**
  - Reduce transportation and construction cost
- **Pre-fabricated and pre-cut components**
  - Minimise construction waste and cost for environment
- **Dematerialization**
  - Truss and Framing 1.20-1.60 mm → 0.60-1.00 mm (↓ 40%)
- **Thermatec® Technology**
  - Environmental, economic and social benefits
  - Cooler building = thermal comfort\Less thermal expansion and contraction

## 4. Use in Construction

### CONSTRUCTION

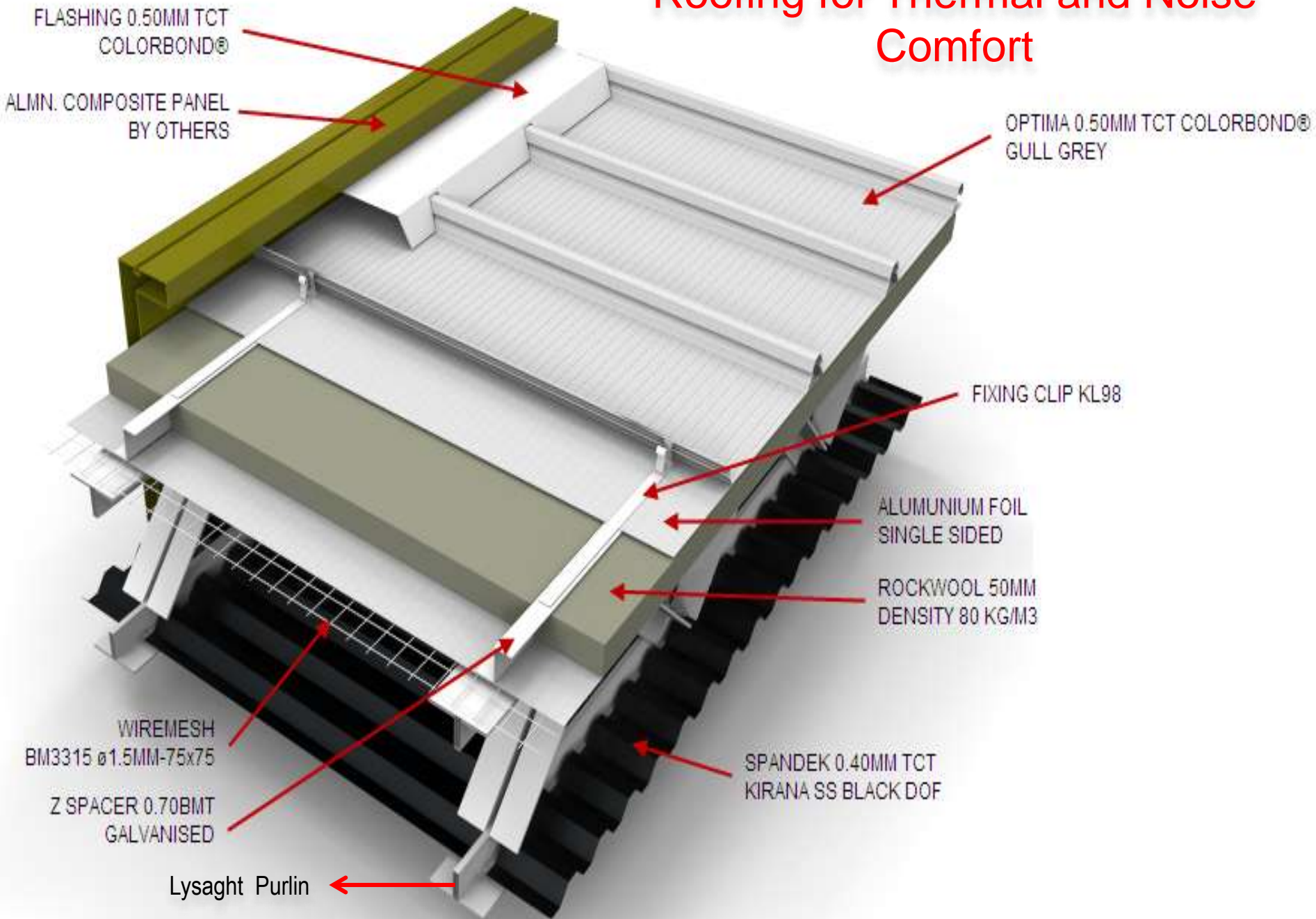
Waste	Less waste on-site; waste produced off-site can be recovered and reused.
On-site safety	Safer installation work as most roofing components are lightweight.
Construction time & cost	Easy to assemble; reduce construction time; may reduce construction cost.
	Reduced need for heavy lifting equipment; may reduce construction time & cost.
Foundations	Lightweight roof system requires lightweight steel framing system; Foundation size can be reduced.
On/Off site disturbance	Less disruption of nearby built and natural environments eg. noise, traffic, sedimentation.



## 5. Building and Maintenance

USE and MAINTENANCE	
Thermal comfort and energy consumption	Flexibility to configure roof build-up to achieve desire <b>Thermal Resistance</b>
	Thin gauge cladding material; lightweight roof layering components; light weight construction.
	Light colors reflects more energy; dark colors absorb energy. Low solar absorptance can help meet legislative requirement (if any); helps reduce the intensity of urban heat islands (UHIs).
	Tight envelopes minimize air leakages; accessories available to gain air tightness.
Maintenance	Require minimum resources on maintenance and replacement; Require simple cleaning method.
Acoustic comfort	<b>Acoustic roof system available with various STC and IIC rating;</b> Perforated cladding product for interior application for sound cushioning.
Water harvesting	Food-grade polymer coated steel available for water tank projects.

# Roofing for Thermal and Noise Comfort



## 6. End of Life- Reuse and Recycle

LIFE CYCLE ATTRIBUTE	PROPERTIES	KEY ADVANTAGE
<b>END-OF-LIFE</b>		
Reuse	Long lifespan	Design to disassembly and reuse
Recycle	100% recycle	Necessary for new steel production
	No downcycling	





Changi Airport,  
Singapore



Chengdu Shuangliu  
International Airport,  
Chengdu



# Lysaght Steel in Industrial Buildings



# Lysaght Steel in Residential



# Lysaght Steel in Public Building



# Lysaght Product in Commerce Building



# Conclusion:

1. Steel is Sustainable Products
2. Sustainable is start from Manufacturing- Products- Transport-Used- Maintenance- End Life of Products.
3. BlueScope Lysaght Products provides Sustainable Products for construction in terms of:
  - a. Reducing total construction cost and waste
  - b. Recycle Materials
  - c. Can be Reused and Reused again
  - d. Provide Aesthetic Looking
  - e. Easy to Build- Save Time
  - f. Control Noise and Thermal (save Energy)



If you have question, Please feel free to contact  
PT NS BlueScope Lysaght Indonesia  
BRI 2 Building, 9<sup>th</sup> floor, Jl. Jend. Sudirman No. 44-46  
Phone: (021) 71689711  
Email: [Susanto.Samsudin@bluescopesteel.com](mailto:Susanto.Samsudin@bluescopesteel.com)

