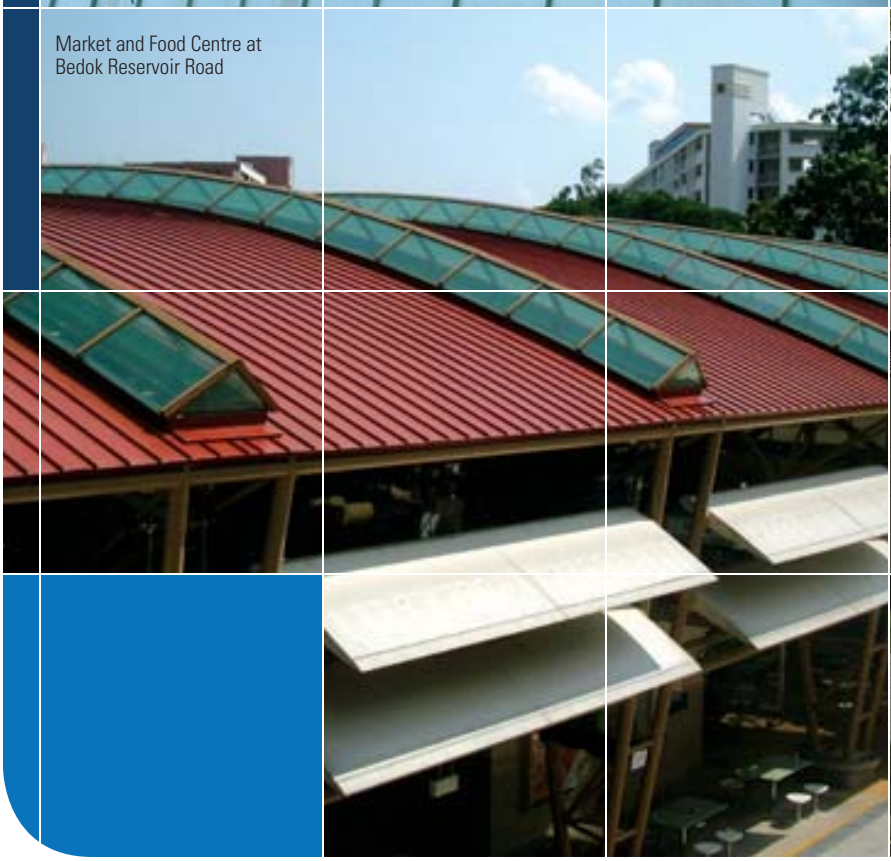
# LYSAGHT®
# SELECT SEAM® Series

LYSAGHT

St. Theresa's Church



Market and Food Centre at
Bedok Reservoir Road

Residential project at
Ripley Crescent

# LYSAGHT® SELECT SEAM® SERIES ROOF PROFILE

Sleek and aesthetically pleasing standing seam roof profiles from LYSAGHT® roofing and walling solutions are known for form and function attributes.

Being an economical version of standing seam roof and its non-industrial appearance has made countless popular applications in residential, institutional and commercial roofing projects. Minimum accessories are needed to install the roofing sheets with ease. Manufactured from BlueScope Steel's proprietary COLORBOND® steel, its strength to weight ratio, durability and superb weather resistance delivers improved performance.

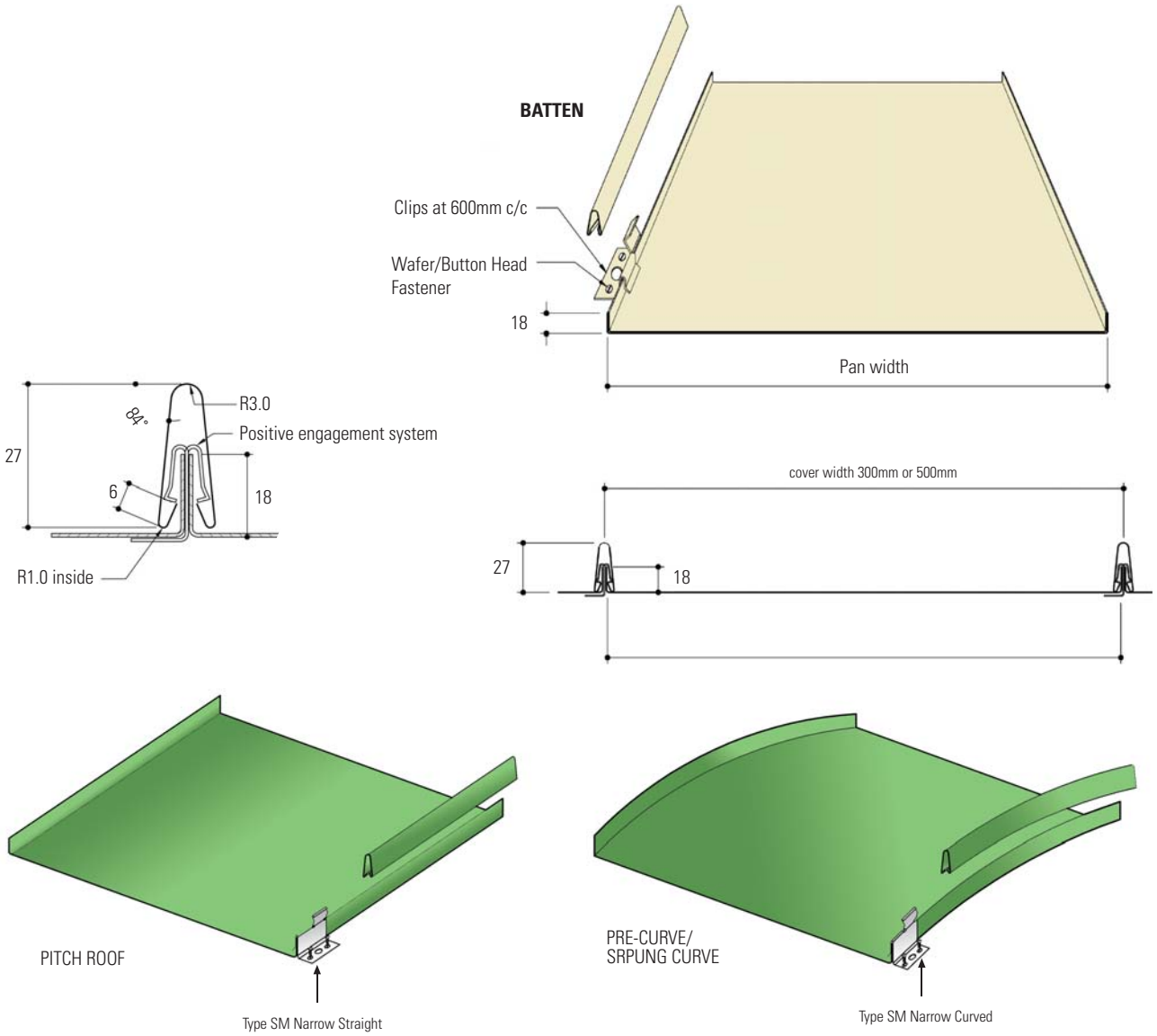
One will find LYSAGHT® standing seam roofing profiles being widely used as roof, wall and fascia with its capability to form both straight and curved roof with classic and sleek pitch .

There are two profiles available in LYSAGHT® standing seam profiles :

1. **LYSAGHT® SELECT SEAM®**
2. **LYSAGHT® SELECT SEAM® II**

# LYSAGHT® SELECT SEAM®

LYSAGHT® SELECT SEAM® roof profile is a concealed fastened roof system that is versatile for both vertical and inclined applications. It is especially flexible for difficult hip and mansard roofs. Its clean wide pan appearance makes it ideal for a classic architectural effect. Continuous ribbed lines can be beautifully achieved over multiple changes in roof pitch. The recommended roof pitch is 7.5˚ .

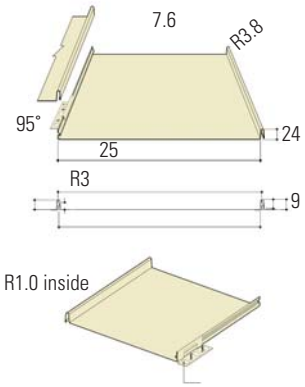


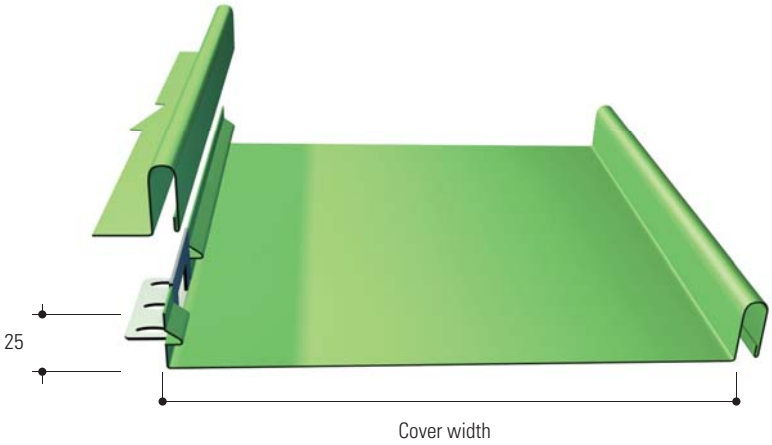

**LYSAGHT® SELECT SEAM® Profile**

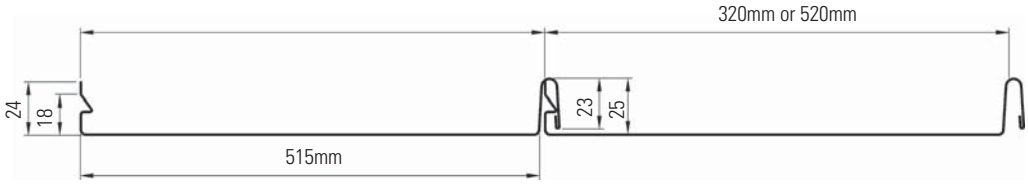
# LYSAGHT® SELECT SEAM® II

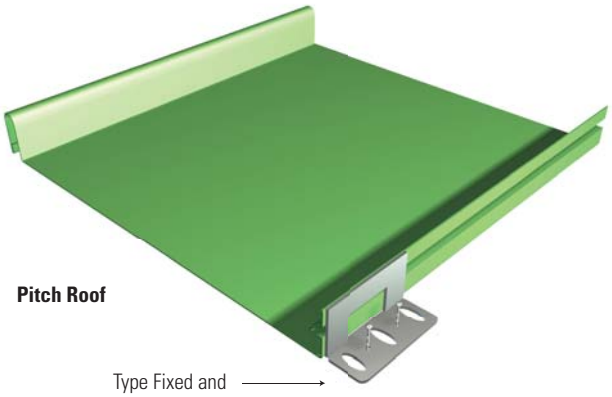
LYSAGHT® SELECT SEAM® II roof profile is an extremely high-performance snap-on profile with the aesthetics of a traditional standing seam panel. Its specially designed "snap-on" side joint delivers excellent seal. At seam height of 25mm, it does not require a preformed batten which makes it easy to install and fix. LYSAGHT® SELECT SEAM® II may be utilized in roofing, mansards and fascia applications.

Its simplicity only allows application in non-curved roofs. The simplicity of the pan design combined with in-line tension leveling provides superior flatness and allows for greater workability on site.




**LYSAGHT® SELECT SEAM® II Profile**

# PHYSICAL PROPERTIES

| | LYSAGHT® SELECT SEAM® | | LYSAGHT® SELECT SEAM® II | |
|---|---|---|---|---|
| **Cover Width** | 300mm | 500mm | 320mm | 520mm |
| **Height of Seam** | 27mm | | 25mm | |
| **Maximum Length** | 11.8m (Export) 14m (Local) | | | |
| **Minimum Roof Pitch** | 7.5˚ | | | |
| **Grade of Steel** | G300 (300 MPa) | | | |
| **Coating Class** | AZ200 | | | |
| **Base Metal Thickness (BMT)** | 0.55mm | | | |
| **Total Coated Thickness (TCT)** | 0.61mm | | | |
| **Finishes** | COLORBOND® Ultra steel | | | |
| **Nominal Weight (kg/m²)** | 5.073 | 4.883 | 5.718 | 5.287 |

| Recommended Radius Curvature For LYSAGHT® SELECT SEAM® PROFILE | | |
|---|---|---|
| | **Minimum Radius (mm)** | **Maximum Radius (mm)** |
| **Sheet Profile** | | |
| Pre-curved | 800 | 10,000 |
| Sprung curved | 10,000 | 60,000 |
| **Batten** | | |
| Pre-curved | 800 | 20,000 |
| Sprung curved | 20,000 | 60,000 |

Note: • Please consult Lysaght Singapore for pre-curved and tapered sheet profile.
• LYSAGHT® SELECT SEAM® II roof profile is not applicable for curved and tapered applications.

Greenridge Secondary School (Upgrading Works)

Residential Project, Jalan Menarong

## SLOPE REQUIREMENTS

The minimum slope requirements for LYSAGHT® SELECT SEAM® profile is on a slope of 1:8 (approx. 7.5˚). For more information and clarification on other roof pitch, please consult BlueScope Lysaght Singapore.

## CURVED PANELS

LYSAGHT® SELECT SEAM® panels and battens are suitable for installation over curved surfaces. A radius as small as 800m can be achieved by pre-curving.

## PINNING REQUIREMENTS

LYSAGHT® SELECT SEAM® series roof profile must be pinned at the ridge to resist the drag load caused by live loads and thermal movement. The intensity of the drag is a function of slope, the loads and the length of the sheet. Table 1 gives the drag loads for various slopes and loading conditions.

**Table 1**

**Drag Load Per Square Metre of LYSAGHT® SELECT SEAM® and LYSAGHT® SELECT SEAM® II Profile Panel Live and Dead Load (kN/m²)**

| Slope | 0.75 | 1.00 | 1.50 | 2.00 | 2.50 | 3.00 |
|---|---|---|---|---|---|---|
| 5˚ | 0.07 | 0.09 | 0.13 | 0.17 | 0.22 | 0.26 |
| 7˚ | 0.09 | 0.12 | 0.18 | 0.24 | 0.30 | 0.37 |
| 10˚ | 0.13 | 0.17 | 0.26 | 0.35 | 0.43 | 0.52 |
| 14˚ | 0.18 | 0.24 | 0.36 | 0.48 | 0.60 | 0.73 |
| 18˚ | 0.23 | 0.31 | 0.46 | 0.62 | 0.77 | 0.93 |
| 22˚ | 0.28 | 0.37 | 0.56 | 0.75 | 0.94 | 1.12 |
| 26˚ | 0.33 | 0.44 | 0.66 | 0.88 | 1.10 | 1.32 |
| 30˚ | 0.38 | 0.50 | 0.75 | 1.00 | 1.25 | 1.50 |
| 34˚ | 0.42 | 0.56 | 0.84 | 1.12 | 1.40 | 1.68 |
| 37˚ | 0.45 | 0.60 | 0.90 | 1.20 | 1.51 | 1.81 |
| 40˚ | 0.48 | 0.64 | 0.96 | 1.29 | 1.61 | 1.93 |


## CONDENSATION, NOISE AND INSULATION

Insulation to meet the Noise Criteria can be incorporated into the roof system. Please consult BlueScope Lysaght Singapore for further clarification.

## SUBSTRATE

LYSAGHT® SELECT SEAM® series roof profile cannot span between spaced support and therefore require panels to be laid over solid substrates, such as LYSAGHT® SPANDEK® substrate or LYSAGHT® TRIMDEK® substrate with a Total Coated Thickness (TCT) of 0.47mm in ZINCALUME® steel.

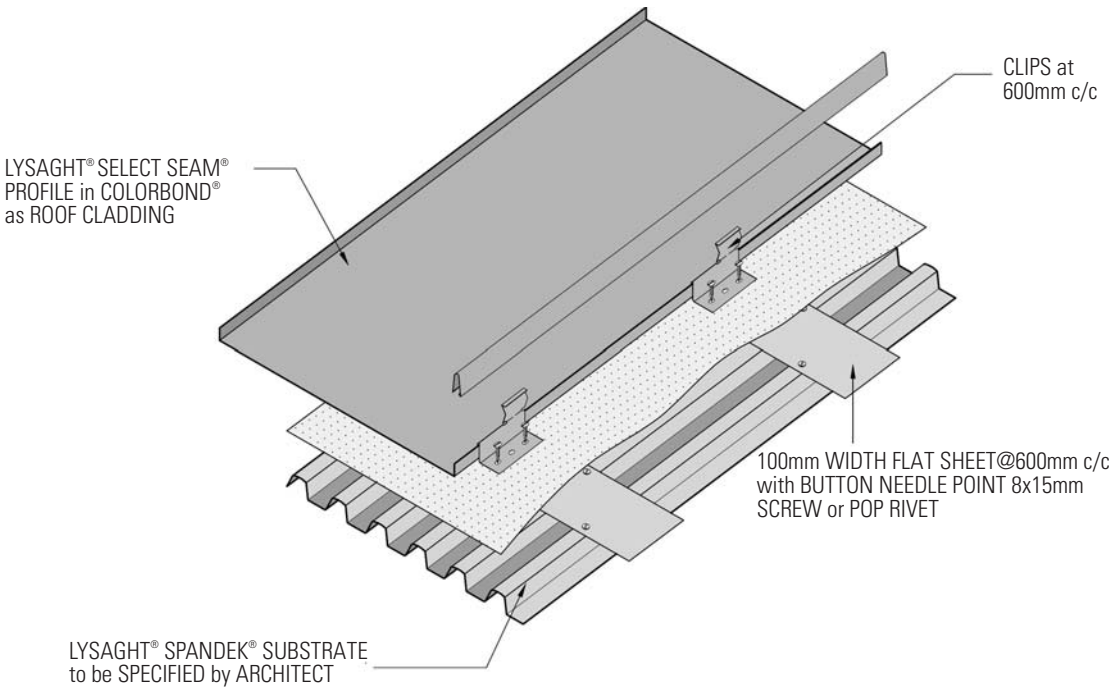
## HEAT CONTROL

The effective method to control the heat is to drape a membrane of the reflective foil lamination over the support before laying the sheeting or insulation blanket. The laminate can also provide a vapour barrier to minimise condensation. The insulation blanket is often provided for additional heat insulation to overall system.

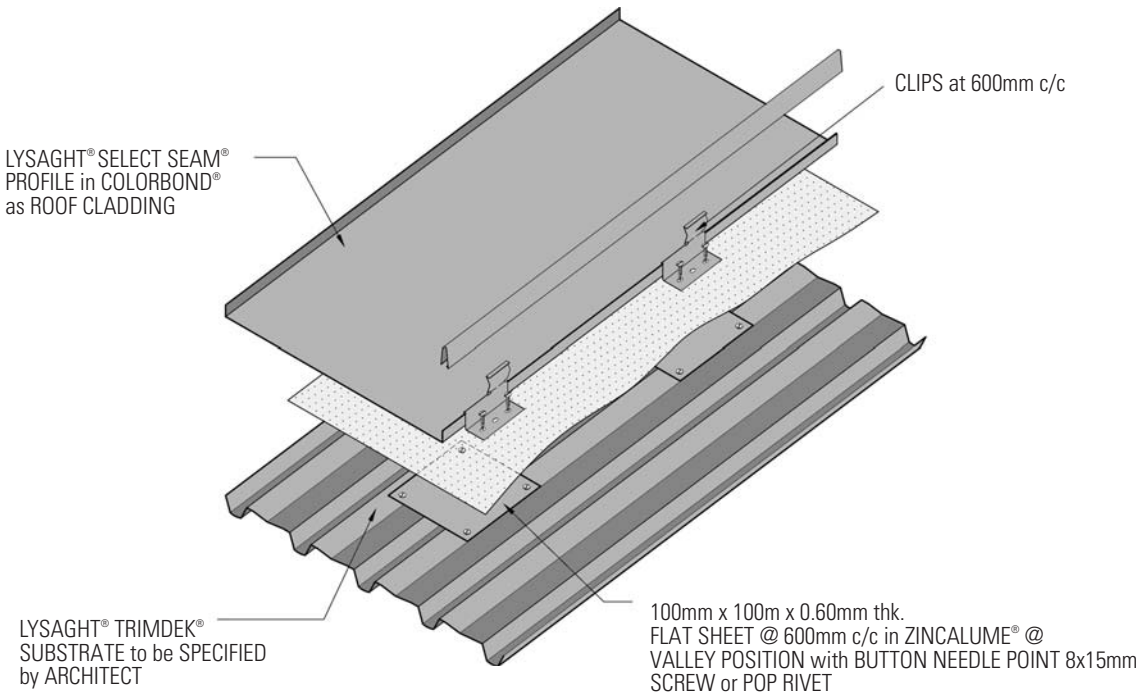
## RAIN NOISE

To reduce rain noise on metal roof sheeting, a self adhesive bitumen felt is placed underneath the roof sheeting to dampen the rain induced vibration at point of impact. This is followed by installation of a solid roof substrate such as LYSAGHT® SPANDEK® substrate or LYSAGHT® TRIMDEK® substrate. An insulation mineral wool blanket will then be placed in between the metal roof substrate and a layer of double-sided aluminium foil. Noise will be further reduced by the transmission loss through the mineral wool blanket to achieve a significant marked noise reduction. Note : When using an insulation mineral wool blanket, care should be taken to ensure that it is fully protected from moisture.

**Example:**
**LYSAGHT® SELECT SEAM® profile with LYSAGHT® SPANDEK® substrate**

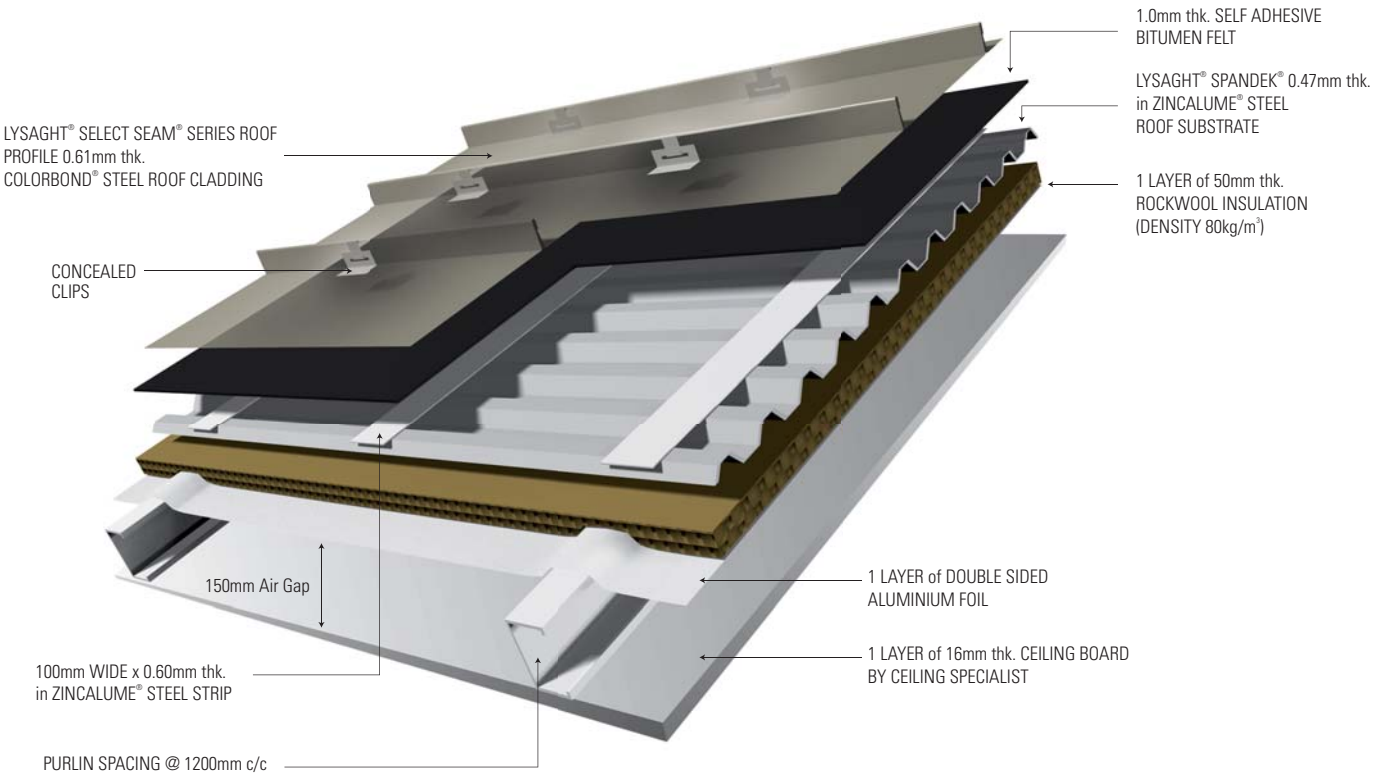



**LYSAGHT® SELECT SEAM® profile with LYSAGHT® TRIMDEK® substrate**



## ACOUSTIC ROOF SYSTEM

Lysaght Acoustic Roof System, tested by PSB Corporation Singapore had rated the roof system as having a sound transmission Class 51 (STC 51). The test was conducted in accordance with ASTM E90 – 97.




Typical Roof Built-up of LYSAGHT® SELECT SEAM® and LYSAGHT® SELECT SEAM® II in sound transmission class STC 51



Dunman Food Centre

Residential Project

Residential Project,
Cluster Terrace Houses,
Upper Changi Road

## OIL CANNING

The appearance of flatness depends on the distribution of the stresses across the surface of the metal sheet. These stresses will change as temperature changes. The ability of a metal to transfer the effect of these stresses across the surface without buckling or distorting out of plan, will determine the level of "oil canning" that will occur.

"Oil canning" is a metaphorical term used to describe the tendency of flat surfaces to show variations in reflectivity. For example, a curved mirror will show a stretched and distorted image of a person standing in front of it. A metal surface too, will distort the reflection of light if minor variations in and out of a level plane exist. The appearance of flatness is very much dependent on surface reflectivity. It is also caused by mill tolerances, variations in the substrate/decking and purlin alignment. Some paint finishes and metals that have high gloss index will exhibit highly apparent distortion. The visual effects of oil canning can be exacerbated by different light conditions and orientation. Darker colours visually accentuate oil canning to a greater extent than the lighter, more neutral colours.

There are several precautions that can be taken to reduce the oil canning effect. One is to use thicker material, because thicker metal tends to oil-can less than thinner metal. An alternative is to specify LYSAGHT® SELECT SEAM® trays with stiffening ribs in the pan of the panels.

**Oil canning is an inherent characteristic and not a defect of a standing seam profile. It is therefore not a cause for panel rejection.**

ZERO HARM

**REMINDER!**

If you are working at height 2 metres and above, you must wear a safety harness with a shock absorbing twin tail lanyard attached to either a life line or an anchorage point.

In addition, the use of Ausmesh 300 is recommended to assist in the prevention of falls during roof sheet laying. Contact Lysaght Singapore for more information on Ausmesh 300.


Bedok Green Primary School
BEDOK GREEN PRIMARY SCHOOL
MINDS Special School
Linkway at Ang Mo Kio

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