AfS Galvanised Steel S Brick
Technical description and risk assessment

This document covers S Bricks fabricated out of galvanized steel, 1 mm thick. These nest boxes, intended for Swifts and House Sparrows, incur minimal intrusion in the wall while at the same time providing adequate floor space and headroom for the birds.

The 3 configurations of the S Brick contain a nest form. Top and bottom is clearly labeled. All configurations are customisable for different building geometries such as cavity width or brick-size as well as brick type.

1. For inclusion in brick or stone walls. The front of the nest chamber is faced with a slip made of brick, stone or cast in a 50:50 mixture of sharp sand and cement. The face of the nest chamber is scored and has small holes for glue to penetrate. The glue used is Fixall maximum strength. This configuration is suitable for both new build and for retrofit.

The weight of an S Brick and brick slip is c1.5kg.

2. For rendered walls

The entrance is surrounded with an entrance piece cast out of a 50:50 mixture of sharp sand and cement. This is secured to the front of the nest chamber in the same manner as 1 above. The front of the box has a layer of extended metal that acts as a key for the render.

The weight of a render S Brick is c1.2kg.

Both above configurations contain a sheet of 3.2mm Cembrit Cloakboard on the floor, a rough, absorbent, Swift-friendly material.

S Bricks are fully compliant with BS 42021: 2022.

Risk assessment

The general recommendation is to install S Bricks as high as possible in a gable, near the verge or under the eaves, near to or inside the eaves soffit. Locations where there is an overhang are to be preferred. Such locations are where the birds like it, and it also minimises the risks outlined below.

Structural integrity
Galvanised metal is a popular material used in construction projects due to its durability and strength. The coating of a layer of zinc, protects the metal from corrosion and other environmental damage.
It is highly durable and can withstand harsh weather conditions. The zinc coating on the metal acts as a barrier against corrosion and rust, preventing the metal from deteriorating over time.
In addition, galvanised sheet metal has a long lifespan, of up to 50 years without maintenance.

Strength and Resistance to Damage:
Galvanised metal is also highly resistant to damage and can withstand heavy loads and impacts. This is due to the strength of the steel as well as the added protection provided by the zinc coating.
The riveted construction gives a rigid nest chamber, which can withstand a uniform load in excess of 100kg. The joints are secured with Unika Mitrebond 2-part glue.
In the recommended locations, there is minimal load from above. Even in lower positions, the removal of 1 brick would not compromise structural integrity. A lintel should not be required.

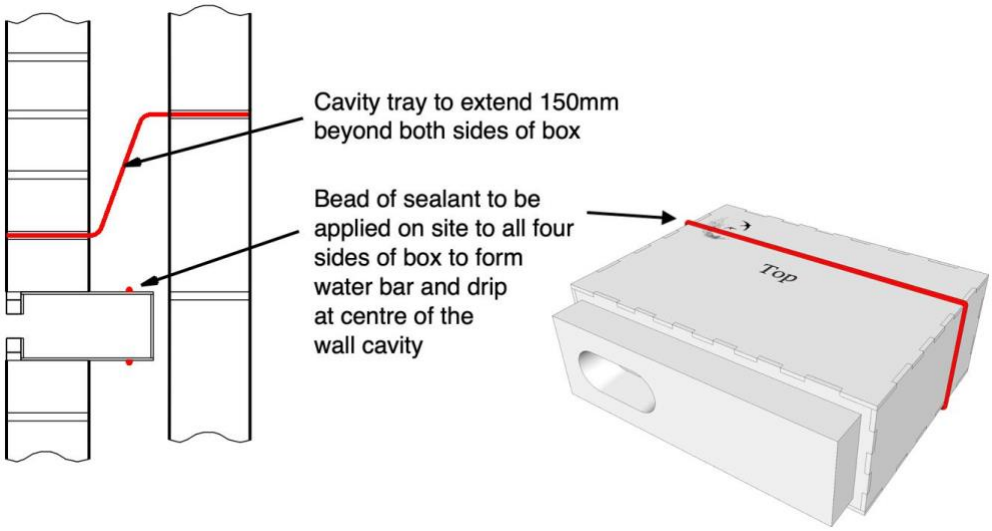
Fire proofing:
Galvanised metal is highly resistant to fire, which makes it an ideal material for buildings that need to meet strict fire safety regulations. The zinc coating on the metal has a high melting point, which means that it does not contribute to the spread of flames or release toxic fumes when exposed to fire. This makes it a popular material

for roofing, wall cladding, and other building components that need to meet fire safety standards.
The material of the nest chamber and all included elements are fireproof, with the exception of a very small amount of plywood used for a 100mm2 nest form, with an 80mm hole in the centre. This is fixed within the steel nest chamber and would provide no more fire risk than the feathers, leaves and other organic materials that Swifts or other birds would bring in to the nest.

Environmental Benefits:
Galvanised metal has several environmental benefits that make it a popular choice for sustainable construction projects. Firstly, the zinc coating on the metal can be recycled at the end of its lifespan, which means that it does not contribute to landfill waste.
In addition, galvanised metal is made from a highly abundant and recyclable material, which means that it has a low environmental impact compared to other building materials such as concrete or plastic. This makes it an ideal choice for building owners and contractors who are looking to reduce their environmental footprint.

Water incursion
In the recommended locations, little water will land above the level of the nest box with corresponding low probability of water incursion..

In situations where water incursion may be a concern, then a simple cavity tray can be used



Differential expansion in rendered walls
Should there be a perceived risk of differential expansion between the nest box and the surrounding brick or block work, then, in consultation with the render supplier, a suitable mesh or scrim can be layered across any joins. This can be applied to the base layer before the finish coat.

Cold bridging

Installed in unheated roof space, there is no issue of cold bridging leading to cold spots. Other situations may need a layer of insulation behind the nest chamber. If space is limited, then a high-spec insulation material such as Aerogel can be used.

For material specifications see:

Soudal Fixall
https://www.soudal.co.uk/sites/default/files/soudal_api/document/F0024237_0001.pdf
Unika Mitrebond:
https://unika.co.uk/wp-content/uploads/2022/07/MitreBond-MSDS.pdf

Cembrit cloakboard e.g. see:
www.roofingsuperstore.co.uk/product/non-asbestos-undercloaking-strips-1200-x150-pack-of-10.html

www.actionforswifts.com
actionforswifts@gmail.com