



**ZAMBEZI  
STEEL**

Strength, Quality, Integrity



# Light Steel Frame®™ Roof Trusses & Wall Panels

## Vision

We want to be recognised by our clients and competitors as a company of choice. An inspiration in Zambia with our innovative technologies, products, and quality that benefits people's lives and contribute to social prosperity whilst building a sustainable and growing business with a strong foundation.

## LSF – Light Steel Frame®™

Zambezi Steel Ltd design cold rolled steel building solutions for applications across a broad range of market sectors throughout the whole of Zambia and export to Zimbabwe, Malawi and the DRC. Our buildings and roofing systems are designed with precision engineered structural components combined with industry leading cladding systems.

Our cold rolled steel framed building and roofing systems enable a fast build timeline delivering occupancy in a fraction of the time required by traditional construction methods. The nature of our steel allows for easy handling, economy in transportation and reduces the need for extensive and costly foundations, giving significant savings in pre-build costs. Our efficient designs and streamlined production process give defect free, consistent components with minimal waste.

- Simplified Construction
- Controlled Budget
- Fast Build



# Features



Our extensive range of façade options allows for building personalisation. Whether your requirements demand a cost-effective, functional building or an architecturally driven solution with a focus on design, appearance, and energy efficiency, our design approach and construction method deliver the same benefits for every project.



The nature of our steel allows for easy handling, and economy in transportation and reduces the need for extensive and costly foundations, giving significant savings in pre-build costs



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Our cold-rolled, steel-framed building and roofing systems enable a fast build timeline delivering occupancy in a fraction of the time required by traditional construction methods

# What is LSF – Light Steel Frame®™

In Zambia there is a new type of construction that has been gaining traction in recent years, though it remains less common than in many other parts of the world, it is increasingly being adopted in Zambia. We are referring to LSF, or 'Light Steel Frame' construction. This type of construction is characterised by a lightweight structure made of galvanised steel that allows a dry construction that can be executed at an advanced speed, in addition to improving the sustainability of the building.

LSF – Light Steel Frames®™ Houses and Roofing Systems are built with light steel as the structural material. The steel profiles are coated (galvanised) to create greater rigidity in the structure and to support the insulation and waterproofing materials, as well as the necessary interior and exterior finishes. Although steel is the most widely used construction material in the world due to its versatility, stability, and longevity, in Zambia masonry construction is still the most widely used form. But LSF is catching up, so let's find out why.

## Why LSF – Light Steel Frame®™

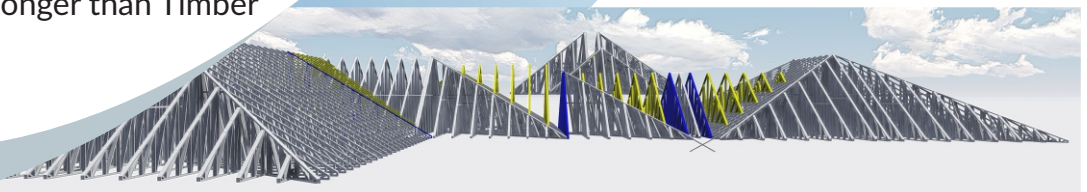
### ■ LSF Vs. masonry construction

When we talk about masonry we mean the set of materials - Cement, bricks and stones - that are used to construct the walls or foundation of a building. Usually, masonry is combined with reinforced concrete, which in short is concrete encased in steel, fibre or other materials. Due to the diversity of materials and the way they are applied, LSF – Light Steel Frame®™ construction and masonry construction have some crucial differences which are important to mention.

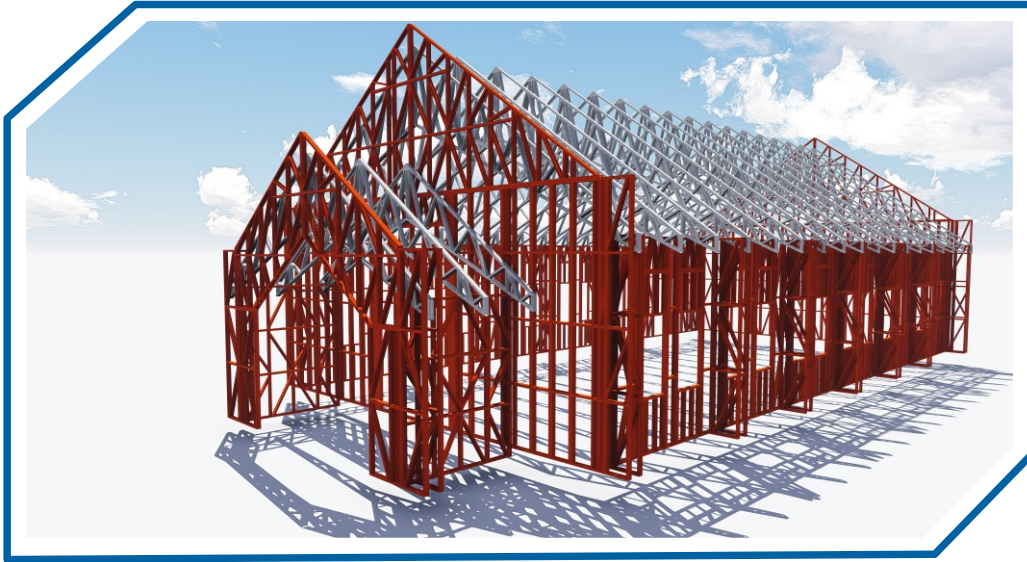
### ■ LSF – Light Steel Frame®™ Construction

LSF – Light Steel Frame®™ construction has certain characteristics that have made it one of the most popular methods of construction outside of Zambia. In southern Australia (a similar climate to Zambia) over 30% of new builds are LSF – Light Steel Frame®™

- It is lighter and ideal for a one- or two-storey buildings.
- The LSF - Light Steel Frame®™ system is fully sustainable and steel is a 100% recyclable material.
- The use of the steel frame means that construction can be completed more quickly.
- The finished product is fully controlled and engineered, meaning that your roofing system will last much longer than Timber



# LSF - Light Steel Frame®™ Construction: Advantages

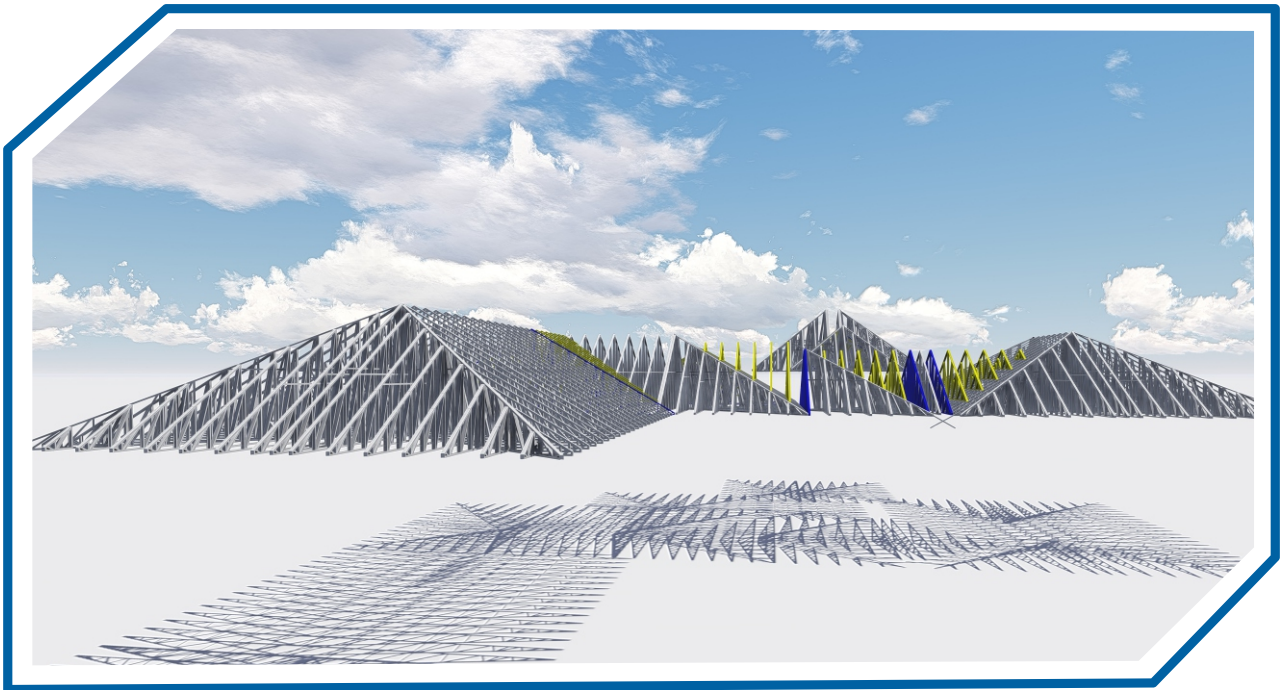


- ❑ Safety - Although it is a lightweight construction system, this does not mean that LSF – Light Steel Frame®™ houses are less safe.  
This type of construction has a core structure (the frame) with great energy absorption capacity and thanks to the flexibility of this material it has great seismic resistance. In addition, LSF – Light Steel Frame®™ construction also has a high fire resistance since the materials used are non-combustible.
- ❑ Insulation - Thanks to the materials used over the frame, such as stone wool and plasterboard, LSF – Light Steel Frame®™ houses have high thermal and acoustic insulation, thus increasing the energy efficiency of the house and bringing greater comfort.
- ❑ Speed of construction - Due to their simplicity, weight, and dimensions, light steel constructions are faster than traditional constructions.
- ❑ Sustainability - The materials used in LSF – Light Steel Frame®™ constructions are recyclable or eco-efficient.
- ❑ Durability - The light steel structure is extremely strong and has a service life of several decades. In addition, as the materials used are very resistant to fungus or mould, no major maintenance is required over time.
- ❑ Economic - Besides the low maintenance required, and the energy efficiency of the structure, LSF – Light Steel Frame®™ houses are still cheaper than traditional ones both in terms of construction price - due to the reduction of materials in construction - and in terms of transport price - as the lesser weight, dimensions, and volume of the materials naturally cost less to transport.

# Roofing Trusses

## List of benefits over traditional Timber:

- **Does not Warp**
  - LSF - Light Steel Frame®™ by Zambezi Steel is perfectly straight
- **Does not Rot**
  - LSF - Light Steel Frame®™ by Zambezi Steel is Galvanised to a very high specification and is specific to this application
- **Has a much better fire resistance rating than wood**
  - Steel does not burn
- **Does not need harmful chemicals to protect it**
  - Galvanised Steel lasts 50 to 100 years
- **Is environmentally friendly - Recyclable**
  - It is not just reduced wastage that is important; it is the environmental impact of what happens to waste. Unlike treated timber, steel is 100% recyclable.
- **Is designed by an engineer to International Standards (RSA, USA, UK, Australia)**
  - Our design software is some of the best in the world and meets international standards across the globe, giving you peace of mind that the design specification exceeds Zambian standards.
- **Is cheaper to insure**
  - Insurance companies look favourably on LSF - Light Steel Frame®™ installations as they know the risks associated are much less.
- **Designed, Manufactured and Installed by trained and certified professionals**
  - Zambezi Steel has trained over 70 professionals in Zambia and continues to invest in the upskilling and training of people to ensure that our LSF - Light Steel Frame offering is amongst the best in the world from design to installation.
- **Is quicker to manufacture and install - saving you valuable time and money**
  - Steel is faster and more efficient LSF -Light steel frames®™ are manufactured using steel roll forming machines that deliver pinpoint precision. This means that all framing components are dimensionally accurate. The result is minimal rework. With more precise construction methods, you get faster build times.
- **Has much less scrap than Timber, typically 2-3 % vs 20% for Timber**
  - Based on a US study, typical timber construction wastage is about 20%. With light gauge steel, wastage is just 2% - a ten-fold reduction, which adds up to considerable cost savings. SCI Studies proved that offsite light steel modular construction makes waste reductions of up to 70% possible.



■ **Is lighter than Timber**

- Timber used in framing construction weighs three times more than its thin-gauge, high-tensile steel equivalent. Because it is lighter, LSF is safer and easier to move around on

■ **Stronger than Timber**

- LSF - Light Steel Frame®™ uses a very high grade of steel that is much stronger than traditional steel, providing a superior strength test than the much heavier equivalent Timber

■ **Is much more accurate than Timber (1mm over 15m)**

- The automated manufacturing process ensures that each piece and combination of trusses and wall panels is perfectly straight

■ **Zambezi Steel offers a 2 year workmanship Guarantee and 10 year materials guarantee for all its installations.**

■ **LSF - Light Steel Frame®™ Trusses can be used with a wide variety of coverings, IT4, Widespan, Corrugated, Harvey tile, Versatile and Clay Tiles**



## Applications

Applications The LSF – Light Steel Frame system is ideal for a number of applications across a wide variety of environments and industries. Our buildings have diverse uses across industry and commerce, and for specialist buildings on industrial complexes and in automotive, agriculture, equestrian, horticulture, leisure and even housing. The most popular examples are:

- Almost all Roofing requirements
- Light industrial units
- Storage and warehousing
- School Classrooms
- Residential Houses
- Commercial hybrid Office Units
- Clinics
- Offices
- Hospitals
- Horticultural stores and display areas
- Showrooms
- Classic car storage
- Sports and leisure buildings
- Extensions to existing buildings
- Office Partitioning
- Military Installations



As new technologies evolve to take over from more traditional building methods to meet environmental requirements and fast build programmes, the use of cold formed steel in construction has increased dramatically throughout Zambia and globally.

At Zambezi Steel, we understand how the whole building works and the importance of the interdependence between the various structural elements.

Our frames comprise cold formed steel sections precision cut to the required size, with fixing points predetermined by our design. Depending on the intended use for the building, cladding options range from single skin sheeting to high performance insulated roof and wall panels. Every LSF – Light Steel Frame®™ project is unique. Every building is therefore an individual, bespoke, tailored and precision engineered solution.

Our in house design capabilities enable us to design and estimate every project in minute detail, quickly and accurately. Prior to producing construction drawings for client approval, all our designs and calculations are subject to further scrutiny by an external structural engineer. The result is a safe, strong, robust, attractive building, built to last.



# Why LSF – Light Steel Frame®™



## ■ Owners & Developers Benefits:

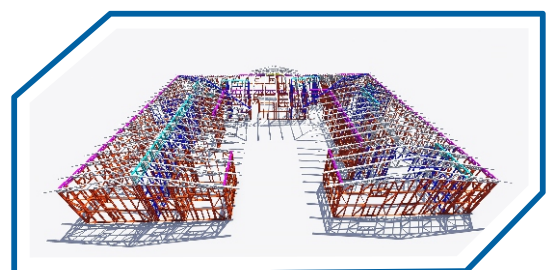
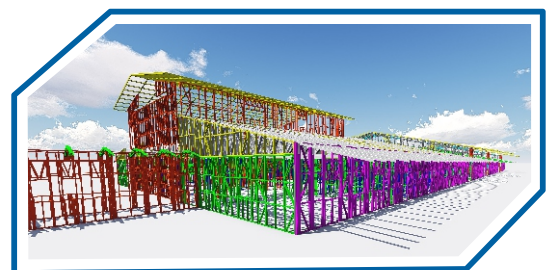
- Revenue generated faster.
- Lower insurance rates.
- Lower maintenance costs.
- Sustainable products.
- Open concept designs & increased strength-to-weight ratio.
- Smaller building footprint with higher density.
- Lower foundation costs.
- Less risk & exposure.
- Superior performing structure.

## ■ Architects & Engineers Benefits:

- Open spans and design concepts.
- More floor and wall options.
- Products that offer great strength-to-weight ratio.
- Lighter materials reducing foundation requirements.
- Perfect for poor soil environments.
- Flexible diaphragms for high seismic areas.
- Certified products.
- Non-combustible solution.

## ■ Builders & Contractors Benefits:

- Buildings go up FASTER.
- Turnkey solutions.
- Value engineering.
- Trade-friendly materials and concepts.
- Non-combustible products.
- Less maintenance.
- Less expensive materials for mid-rise projects.
- Products pre-fabricated to save time.



# Quality assurance



Offering complete component traceability, we operate a full compliance policy with all the necessary International Standards.

A Zambezi Steel LSF – Light Steel Frame®™ building will meet the necessary regulations, not only at the time of installation, but crucially through its life.

## ■ Our Commitment

Our principles of technical excellence and innovation have enabled Zambezi steel to establish an outstanding reputation for service, quality and value. Zambezi steel prides itself on the repeat business it gains from customers and we aim to maintain this by continuing to provide a quality product and a first-rate service whilst ensuring true value for money.

## ■ Sustainability

We promote an environmentally responsible approach to our design concepts. All Zambezi steel buildings are engineered to ensure maximum performance whilst minimising the material content and wastage.

## ■ Our Services

- Design and supply
- Design, supply and installation
- Projects and turnkey contracts



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