

## Evolution Structure

Evolution® structures offer a very wide range of pre-fabricated, tailor made solutions for almost every possible use & application. Benefiting the experience of supplying to more than 60 countries & with over than 200 constructions per year, we have been able to adapt and offer high quality buildings that are bio-secure, cost efficient and resistant to any weather condition.



## EVOLUTION® STRUCTURES

### Poultry

For all your poultry housing needs, look no further than the C-Lines Evolution® range. Our experienced design team includes in-house poultry expertise and will assist you in maximizing and optimizing the surface area of your farm. Our buildings meet all the requirements of poultry production, and whether it is for broiler, breeder or layer operations, these durable structures will give a low cost of ownership throughout a very long life cycle.

Smooth inner walls and ceilings enables easy cleaning and uninterrupted ventilation. Our galvanized and lacquered sheet metal or polyurethane foamed sandwich panel ceilings further ensures optimal biosecurity. Each junction is sealed with silicone and joined creating an air tight environment. The thicknesses of insulation can vary from a minimum of 4 cm. to meet the highest requirements. We guarantee temperature uniformity and the absence of thermal bridges.

### Swine

C-Lines is experienced in setting up swine structures for all stages of production. These buildings offer the best performance in terms of environmental control and biosecurity. Our in-house swine experts design housing to optimise the very latest of modern farming methods.

The flat ceiling: promoted on all our pig projects, accelerates the air flow of ventilation and is also accessible for cleaning and avoiding hot spots. The ceiling can be realized in PVC metal sheets, sandwich panels, or any other special coated surface. Smooth inner walls and a high quality coating allows for easy cleaning and uninterrupted ventilation.

### Commercial Egg

These layer farm solutions offer the best performance in terms of environmental control and biosecurity. Through our vast global experience, we have built C-Lines into the premier brand for the commercial egg and poultry industry. Due to our strong focus on biosecurity, you can be confident that your commercial egg projects at any scale will be housed in a reliable and safe structure.



C-LINES offer different types of structures to meet the highest requirements. Whether it is for swine, broilers buildings, or livestock housing, we have you covered. These buildings offer the best performance in the market in terms of environmental control and biosecurity. Our design guarantees you optimal animal welfare and comfort, maximizing your feed conversion rate. C-Lines structure designs also prioritize minimal energy consumption and easy maintenance.

## FRAMES

Evolution® frames utilize 100% hot dip galvanized steel for its structures and utilise a fully bolted assembly for lowest shipping cost to site and super-fast installation. C-Lines prides itself with its highly durable structures that are able to endure any and all weather conditions.



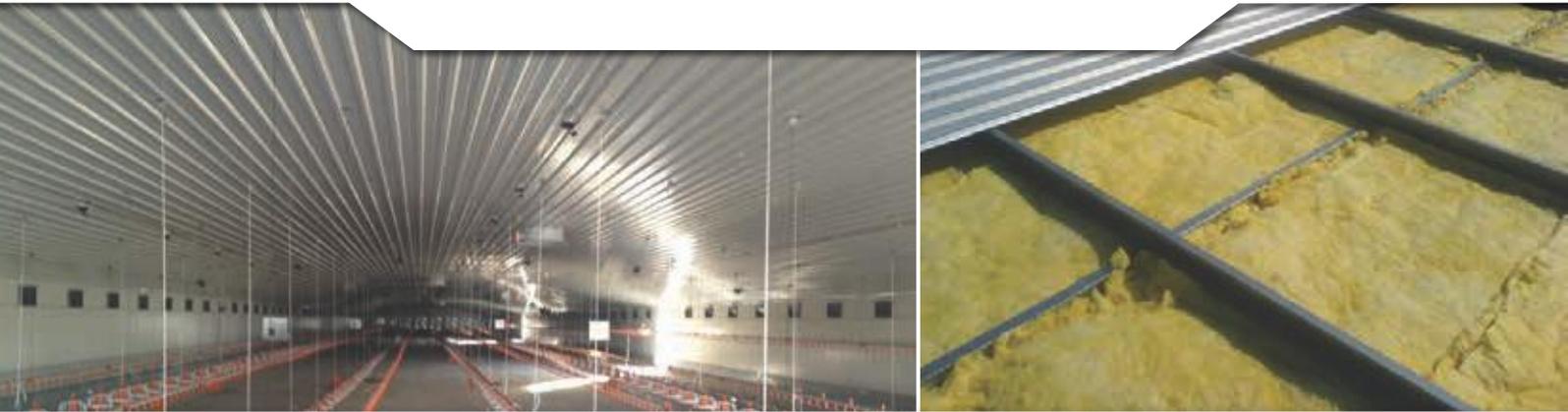
## INSTALLATION



A lighter frame means a lighter concrete base. Each post of the structure stands on a solid concrete block. C-Lines ensures that these concrete blocks adhere fully to local legal codes. The concrete and fast acting chemical anchorage used ensures that Evolution® structures are quickly built and most importantly, strong.

Our prefabricated design makes for an easy and rapid installation process. We provide detailed step-by-step instructions for erecting Evolution® structures.





## CEILING & TOP INSULATION

Evolution® ceilings are available in PU sandwich panels, lacquered metal sheets or aluminium-zinc coating. The benefits of having a profiled ceiling includes; avoiding the accumulation of heat at the top, reduced heat accumulation on the floor and creates an air gap to enable dynamic air ventilation. Our top insulation utilizes polyurethane or glass wool to ensure that temperatures inside the building are always at optimum levels.

## SIDE WALLS

Evolution® walls are specifically designed to improve insulation and avoid any thermal bridge. Side walls are adaptable to any industry equipment such as ventilation, heaters and pop-holes and the smooth bio-secure surface makes cleaning a breeze.

## PVC PANELS

Optional highly durable PVC panels installed will greatly reduce concrete work times and enable flexible planning. The highly impact resistant panels serve as formwork for concrete, even at gables, to strengthen the overall structure integrity.





## INTERIOR

The interior is completely post-free and yet remains strong enough to support the ceiling, feed and watering lines, cages, heaters and any livestock farming accessories. The lack of posts and crossbars mean more efficient air flow and ventilation for your structure. This is achieved by having all reinforcements placed outside the building. Clear span buildings assure unhindered animal management and faster turnaround time between production cycles.

## ROOF

The roof may be supplied using PU sandwich panel, corrugated lacquered trapezoidal metal sheets or Aluminium-Zinc coated metal sheets. All roof material options are sleek in design and will provide excellent weather protection.



## DOORS & WINDOWS

Our heavy duty doors are designed to keep the building 100% airtight when closed ensuring biosecurity for your animals. All doors and windows are made using high quality and durable materials to ensure good service throughout the long life of the building.



# WELDED STEEL TRUSSES

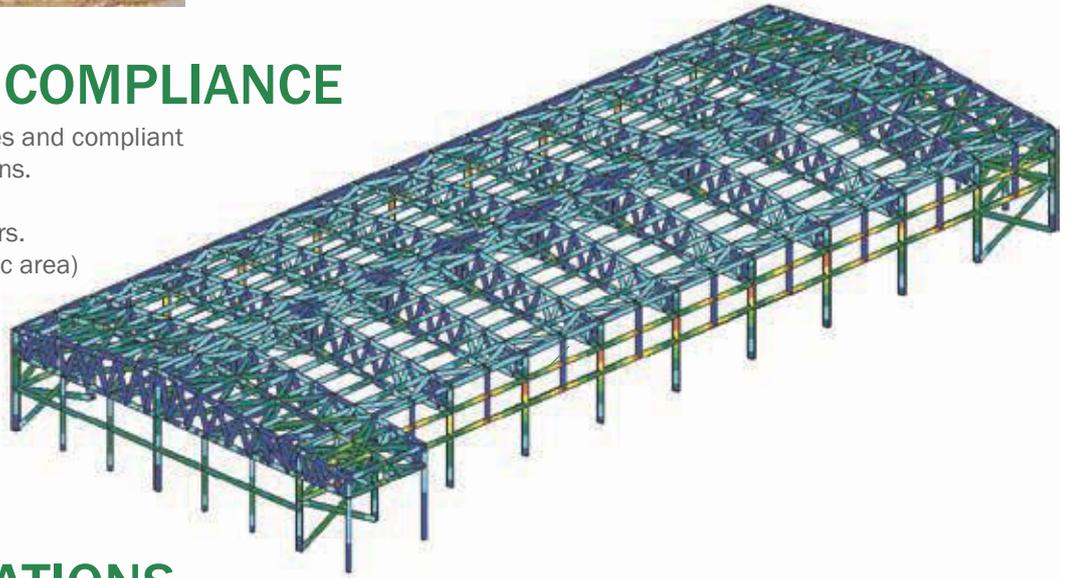


For certain applications, we offer traditional welded steel tube roof trusses. All C-Lines trusses are precision cut and welded and strong enough to suspend all necessary husbandry equipment.

# INTERNATIONAL COMPLIANCE

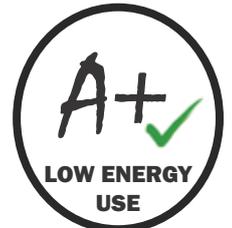
All frames are calculated in Eurocodes and compliant with international structural regulations.

- Post free Span from 10 to 55 meters.
- Wind loads up to 300km/h (cyclonic area)
- Snow load to 200kg/m<sup>2</sup>



# PANELS SPECIFICATIONS

	Panel Nominal Thickness (mm)												
U transmittance	25	30	35	40	50	60	70	80	100	120	150	180	200
W/m <sup>2</sup> K	0.846	0.718	0.624	0.551	0.447	0.375	0.324	0.285	0.229	0.191	0.153	0.128	0.116
Kcal/m <sup>2</sup> H°C	0.730	0.619	0.538	0.475	0.385	0.324	0.279	0.246	0.197	0.164	0.132	0.111	0.100



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