NP
HORTICULTURE

Classic
Single Span

Polytunnels

Experts in Structures
Since 1969.







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npstructures.co.uk

NP STRUCTURES
Established 1969

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Polytunnel structures form the basis of many horticultural and allied businesses in the UK today. Polytunnels are one of the least expensive ways of covering large areas of land not only for use in horticulture, but for use in industries such as soft fruit, hydroponics and fish farming.

Our range of straight sided single span polytunnels are available from 5.5m (18') wide to 9.14m (30') wide. This enables the effective use of the standard polythene sheet widths that are in common use today. All our Northern Polytunnel structures are designed to enable the polythene to be tensioned after sheeting. This we consider to be an important feature in tunnel design.

The requirements of the industry for more versatile and advanced structures has led us to develop our extensive product range of single span structures.

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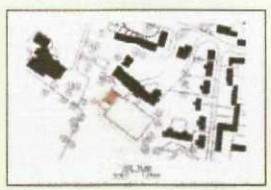


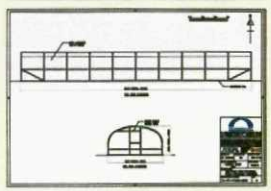


Planning Services

Since 1992 most horticultural structures have required planning permission. We recommend that advice on planning permission is sought from your local planning authority, before ordering.

If help with this is required we can assist with CAD planning permission drawings. These drawings show existing site plan and proposed site plan and include the structure elevations. Prior to an order these services will be subject to a standard charge which will be credited when an official order is received.





Construction

The construction site may require some degree of preparation before it is suitable for building on. A gentle slope from end to end can normally be accommodated without modification to the structure. A sideways slope will generally cause problems, as will undulations in the site. It is in the clients interest to start with a levelled site produced by a professional. Adaptations can be made to the framework for an uneven site, but it is always the less satisfactory option, and could incur costs.

In most cases we would ask the customer to provide concrete for the foundation tubes. The actual dimensions are supplied with each structures' instructions and can vary depending on site conditions. It is often more cost effective to provide ready-mix concrete rather than hand-mixed concrete. Our recommended specification for ready mix concrete is GEN3, a 20 N/mm2 mix, with a slump of 60mm. Weather conditions can severely affect progress and winter daylight hours reduce the work time available; therefore, if at all possible, please try and arrange your build time for the better conditions of Spring, Summer and Autumn.

- Hoops can be positioned closer together to give higher wind and snow load capacities.
- Extra timbers can be added to end frames, for different door configurations.
- Side purlins can be added for extra loading and supports.
- Crop bars are recommended for hanging crops or for support in areas of heavy snowfall.

In House Construction Team

As well as using professional subcontractors, we employ a Construction Manager and our own in house construction team. Our Construction Manager has over 20 years experience on site and he controls our own in house construction team as well as supervising the various subcontractors. This ensures quality control and time management throughout your project.



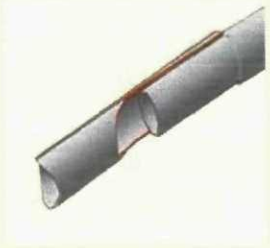




"Our technical team are available to help with your individual requirements."

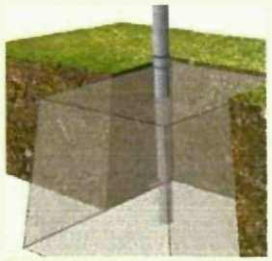
Technical Specification

We roll the tube to a pre-defined profile and build in a certain amount of spring. This assists in holding the two halves of the hoop together at the swaged joint in the centre. All of our hoops have a central swaged joint, this being a reduction of the tube diameter by the thickness of the wall, thus the two halves fit tightly together (Fig1).



(Fig 1)

It is better to have only one swaged joint to avoid the completed hoop twisting. Foundation tubes are from imperial size tube with a heavy galvanised finish on them. These have a 2.8mm wall thickness and are better suited to an underground environment. There are two holes drilled as standard. One hole is for a reinforcing bar to key into the concrete foundation and the second is a facility to bolt on a base rail if required (Fig2). The end frames, base rails and side rails available for our basic range of polytunnels are manufactured from tanalised timber, this being readily available and easy to work with. The tanalised timber preservative which is permanently impregnated in the timber will give long term protection against fungal and insect attack and is recommended for water or ground contact.



(Fig 2)

The fittings used on our polytunnels are manufactured in our own engineering department and then zinc plated to JS500 specification for outdoor use. All door furniture, bolts and screws are also plated and nails used are hot dipped galvanised. The research and development department is constantly looking at new developments in materials and manufacturing processes and has a policy of continuous development and new product innovation.

Cover Options

We believe bpi.visqueen is the best, that's why we don't compromise with cheaper suppliers.



The type of covering material can have a major effect on the growth and development of plants and crops within the structure. With little difference between the prices of the various polythenes, careful consideration should be given to the choice of cover.

We use bpi.visqueen films for all of our structures. We feel bpi.visqueen are the best supplier for films. They offer quality, consistency and reliability. They invest heavily in film technology and product development. We will not compromise quality over price.

Visqueen - at the forefront of cutting edge scientific research and film production.

Luminal AF (Politherm Plus)

Thermic films that are further enhanced by long-lasting condensation control properties. When properly installed, water will condense uniformly on the film rather than as droplets. This, in turn, improves light transmission and reduces the risk of water falling on to the plants below, reducing the risk of damage and disease.

Thickness: 720g (180mu)

Luminance THB-AF

This new generation film combines great thermic and light transmission properties. Its high diffusion characteristics make more light available for plant growth and can help to control peak temperatures and reduce plant scorching. Trials have demonstrated the production of high yields of excellent quality produce.

Thickness: 800g (200mu)

Lumitherm (Clear UVI/EVA Polythene)

A thermic film developed to help keep the growing environment warmer by reducing the heat lost through long wavelength infra-red radiation. Higher overnight temperatures encourage plant growth, can reduce plant losses and allow savings to be made on heating.

Thickness: 720g (180mu)

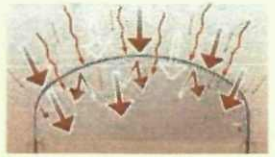
Opaque White

A thermic film developed to help keep the growing environment warmer by reducing the heat lost through long wavelength infra-red radiation. Higher overnight temperatures encourage plant growth, can reduce plant losses and allow savings to be made on heating.

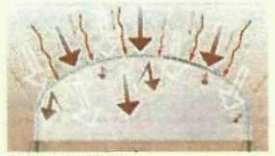
Thickness: 720g (180mu)

Shade Net

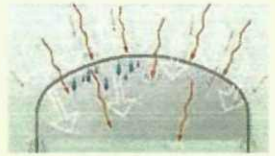
Shade netting manufactured from a knitted polyethylene monofilament to give a 40% or 50% shade value. Dark green netting provides protection against sun and wind. Net covers are sewn to size to fit any size polytunnel.



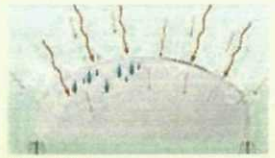
(Luminal)



(Luminance THB-AF)



(Lumitherm)

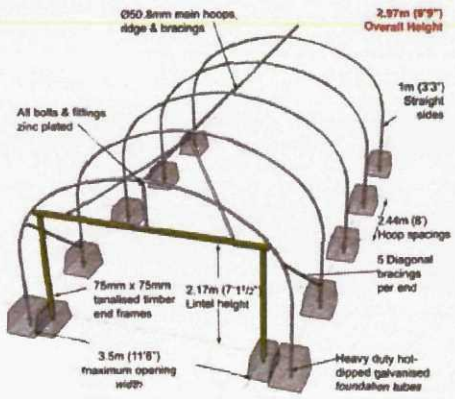


(Opaque White)



(Shade Net)

Classic Single Spans



Our single span structures are available in 5 widths, others can be manufactured to order. Various options are available to ensure we can tailor your struture to meet your needs.

5.5m (18') Wide Single Span

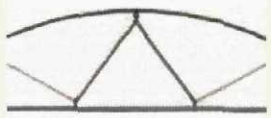
Manufactured from 50.8mm diameter Z35 high tensile pre-galvanised steel tubing. Supplied with heavy duty hot dipped galvanised foundation tube, zinc-plated fixing brackets and 75mm x 75mm (3"x 3") tanalised timber goal post ends frames to provide a high quality, durable structure.

Straight sides of approximately 1m give excellent accessibility and increases available floor space with the option of a fitting a side ventilation system.

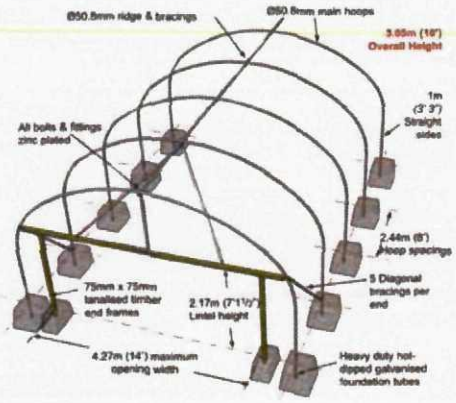
Crop Bars

50mm Crop Bars with 32mm inverted V hangers for hanging crops and increased strength. W formation available.





Classic Single Spans



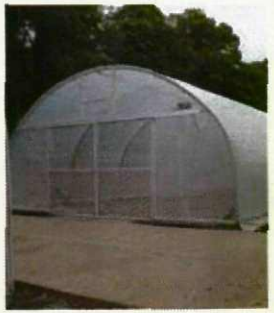
6.4m (21') Wide Single Span

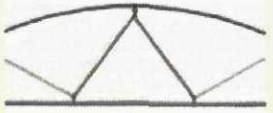
This structure allows the grower the maximum width possible on the 50.8mm diameter tube with 1.5mm wall thickness. The straight sides and gentle curve of the hoops permits full access right up to the sides of the polytunnel. Rarely does a polytunnel in this price bracket give full use of the floor area. As with all of our commercial structures the 6.4m (21') wide single span uses high tensile Z35 tubing which is galvanised both internally and externally. Heavy duty hot dipped galvanised foundation tubes ensure corrosion resistance at this critical area of the structure. The structure comes complete with timber goal post end frames made from 75mm x 75mm (3" x 3") tanalised timber and all necessary brackets, bolts and fixings.



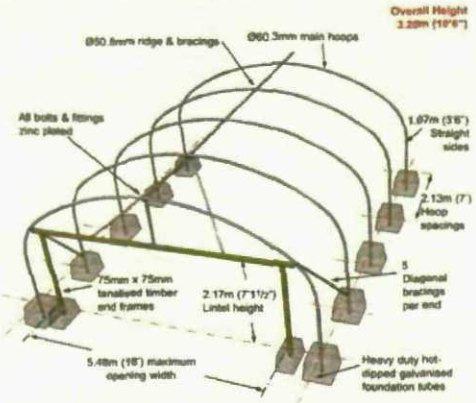
Crop Bars

50mm Crop Bars with 32mm inverted V hangers for hanging crops and increased strength. W formation available.





Classic Single Spans



7.31m (24') Wide Single Span

Manufactured from 60.3mm diameter Z35 pre-galvanised steel tube with straight sides of 1.07m allowing for ample headroom at the sides. Supplied with heavy duty hot-dipped galvanised foundation tubes allowing the hoops to be set and adjusted for tensioning the cover.

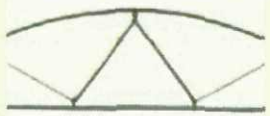
The end frames are tanalised timber with the main posts and lintel from 75mm x 75mm (3" x 3") cross section.
All fittings and fixtures are zinc plated for protection against corrosion.



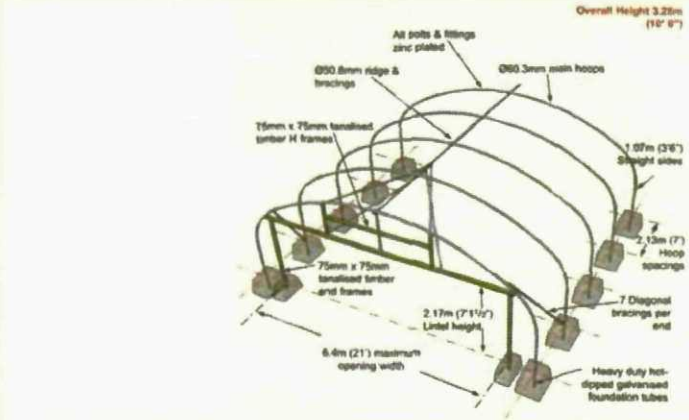


Crop Bars

50mm Crop Bars with 32mm inverted V hangers for hanging crops and increased strength. W formation available.



Classic Single Spans



8.23m (27') Wide Single Span

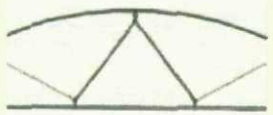
Manufactured from 60.3mm diameter Z35 pre-galvanised steel tube with straight sides of 1.07m allowing for ample headroom at the sides. Supplied with heavy duty hot-dipped galvanised foundation tubes allowing the hoops to be set and adjusted for tensioning the cover.

The end frames are tanalised timber with the main posts and lintel from 75mm x 75mm (3" x 3") cross section.
All fittings and fixtures are zinc plated for protection against corrosion.

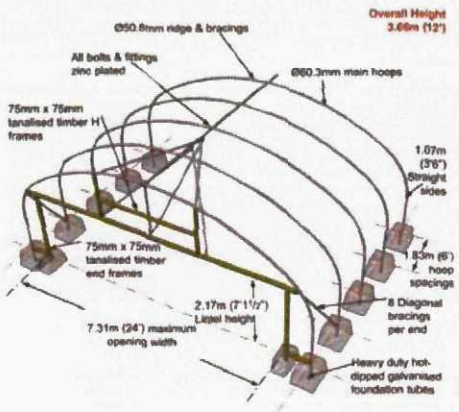


Crop Bars

50mm Crop Bars with 32mm inverted V hangers for hanging crops and increased strength. W formation available.



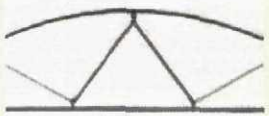
Classic Single Spans



9.14m (30') Wide Single Span

It has a circumferential length over the hoop of 13.4m which is ideal for using the widest polythene sheet available (14m) fixed to a base rail (It is necessary to have a base rail with this width of tunnel as the *cover is not wide enough to be buried* into the ground). Manufactured from 60.3mm Z35 pre-galvanised tube with additional inner diagonals as introduced on the 8.23m (27') model. An additional strut at each end also supports the centre of each goal post end frame. The tanalised timber used for the ends is 75mm x 75mm (3"x3") for the goal posts and lintel and 75mm x 75mm (3"x3") for the H-frame above the doorway. The foundation tubes are 48mm nominal bore (11/2") hot dipped galvanised tube and allow the hoops to be set and adjusted for tensioning the cover.







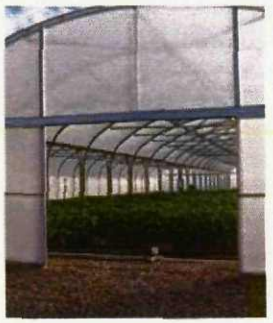
Crop Bars

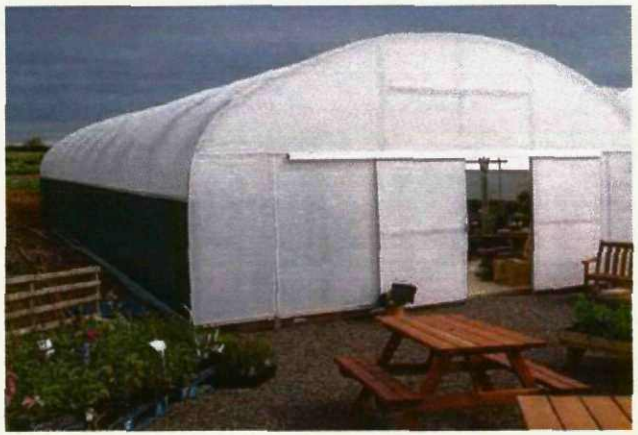
50mm Crop Bars with 32mm inverted V hangers for hanging crops and increased strength. W formation available.

Aluminium End Frames

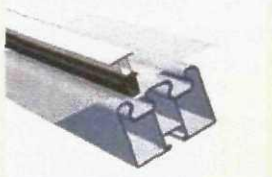
In recent years we have been gradually replacing the standard timber end frames with aluminium and steel sections.

For an enhanced structure we have devised a configuration to replace the standard timber end frames with Alibox and Alitrap. The Alibox forms the complete gable end framework and door surrounds whilst the Alitrap is rolled over the end hoop. The polythene panels on the ends are then separate from the main cover and unsightly pleats and wrinkles are disposed of.













Side Ventilation for Timber

Timber Base Rail

100mm x 50mm (4" x 2") tanalised timber base rail inclusive of all brackets and fixings. Attached to the structure at ground level, this rail provides an alternative fixing method to burying the polythene cover into the ground.

Timber Side Rail & Net

100mm x 50mm (4" x 2") tanalised timber side rail. Inclusive of all fittings, battens and nails. Green 40% shade netting fixed between the side rail and base rail provides excellent lower level side ventilation.

Wind-Up Curtain

Wind-up curtains have been used successfully on our structures for the past 20 years and have proved to be a simple yet effective means of ventilation. Using the hand operated 2 way winch system, the polythene curtain pulls up and behind the timber side rail. The curtain can be lowered and raised as required, always providing ground level draught proofing with higher level airflow. At ground level, the polythene curtain is fastened to the timber base rail. Complete with winches, wire cable, weights, nylon cord and all fittings.

Roll-Up Curtain

Roll-up curtains provide a neat and reliable side ventilation system. A 50mm diameter aluminium drive tube is operated by a manual gearbox - simply turn the handle to raise or lower the polythene curtain. To eliminate ground level draughts we have a PVC skirt stitched to the side ventilation netting - a feature only available from Northern Polytunnels.

Motorised Roll-Up Curtain

We can supply a motorised version of our roll-up curtain, for timber, which can be connected to a control box.









Side Ventilation for Aluminium

Alibox Base Rail

Structural aluminium box-section extrusion - the most rigid rail ever! Alibox incorporates a fixing rail with P.V.C. infills which fit into the aluminium profile. This system allows you to fit your sheets under tension without scoring or cutting the cover. It is attached to the structure at ground level to provide an alternative fixing method to burying the cover into the ground.

Alibox Side Rail & Net

Same specification as the Alibox base rail but attached to the side of the structure rather than at ground level. This double rail enables the main cover and shade netting to be fitted into separate grooves on one rail. The shade netting is fixed between the side rail and base rail to provide lower level side ventilation.

Single Tube Roll-Up Curtain

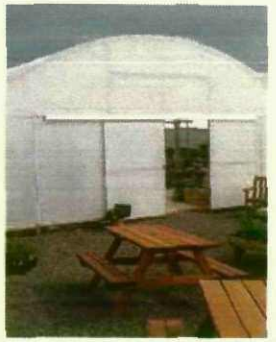
Roll-up curtains provide a neat and reliable side ventilation system. A 50mm diameter aluminium drive tube is operated by a manual gearbox - simply turn the handle to raise or lower the polythene curtain. To eliminate ground level draughts we have a PVC skirt stitched to the side ventilation netting - a feature only available from Northern Polytunnels. Roll up curtains over 1.5m use a reinforced polythene for the curtain material.

Double Tube Roll-Up Curtain

Double tube roll-up curtains are used on structures with higher sides. Double roll-up vents with aluminium central drive tube and bottom edge weight tubes are also used as it provides additional stability.

Motorised Roll-Up Curtain

We can supply a motorised version of our roll-up curtain, for aluminium, which can be connected to a control box.





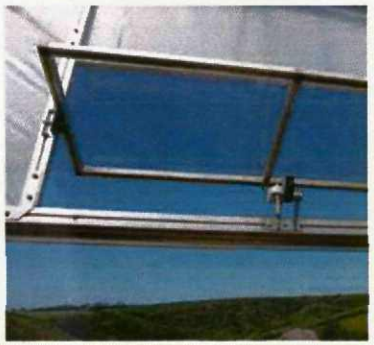


Aluminium Doors & Vents

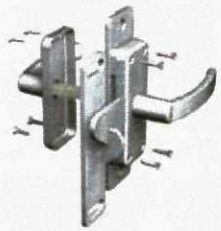
A wide variety of doors and louvre arrangements are available for our structures. Doors and louvres are manufactured using structural aluminium box-section extrusion.

We have chosen to only supply aluminium doors. We think timber doors have a lower life-span and are a lower quality product in comparison. At NP Structures, we will not compromise quality and functionality over price.









(Aluminium Door Handle Kit)





Sliding Doors

The sliding doors can be fitted as a single door or a double door. These can be fitted to the end and on the side of vertical sided structures.

Our sliding doors have a heavy duty aluminium door track incorporating a rain pelmet. This is supplied in a full, single length for easy and fast fitting. Double sliding door sets have a central drop bolt to secure the doors in the closed position. Inclusive of all sliding door gear, aluminium tracking, fittings and bolts.

Ventilation Louvres

The louvres are easily fitted to the ends of our structures. They can be used in conjunction with doors and the configuration can vary, depending on the size of your structure.

Our standard louvres have a 3 positional hinge with a simple pull-cord operation. This allows the louvre to be set in the fully open, fully closed or half open position.

Top Ventilation Louvres

Top ventilation louvres fit in the D panel above the doors to create an effective solution for ventilation. Louvres feature our unique 3 positional hinge which locks the louvre in place.

Top Ventilation Louvres – Rack & Pinion

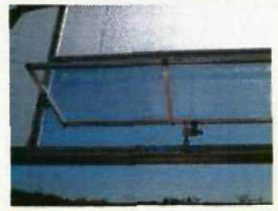
These louvres feature a rack and pinion system for opening, controlled by a gearbox with winding handle.

The rack and pinion louvres are not limited to 3 positions but are fully adjustable.













Shade Halls

Hardy trees, shrubs and vines, including Rhododendrons, Azaleas, Camellias and Tree Ferns are not always suited to the growing environment a polytunnel provides.

Northern Polytunnels have therefore developed the Shade Hall. This provides semi-shading and protection from direct sunlight, which for nursery stock at various levels of growth is an essential factor.

The shade hall is manufactured from 50mm (2") diameter, Z35 high tensile pre-galvanised steel tubing. The structure is based on a grid layout, with each section of the grid measuring 3.75m x 3.75m, and the overall height being approximately 2.7m. This economic design of the Shade Hall allows excellent accessibility and full use of the floor area.

The top of the Shade Hall is clad with Paraweb, which is constructed from close packed continuous high tenacity polyester filaments encased in a tough, durable polymeric sheath.

The sides of the Shade Hall are clad with 40% shade netting, which is manufactured from a knitted polyethylene monofilament. Clear sections can be left for access, alternatively doors are available with the structure, each measuring 0.89m wide x 2.55m high. Both of these materials allow free air circulation, but provide shelter from strong winds, which could otherwise cause damage to plants.











Overhead Irrigation

For any grower, the process of watering by hand can often be a daunting and a time consuming task. This is where our semi and fully automatic systems not only take the strain out of watering, but also offer you the reassurance that your plants are getting the correct amount of water. Couple this with the option of incorporating in line injectors/dilutors (supplying nutrients, herbicide and pesticide into the water) and the advantages of a precisely measured and delivered watering system become obvious.

A wide range of outlet nozzles allow you to achieve the perfect type of watering for your stock - everything from a drip to a heavy rainfall, or a light mist to dense fog can be accurately recreated - providing your plants with a tailor-made environment in which they will thrive.

On all our overhead irrigation systems we now use 300mm downtubes, anti-drip devices and bridge-less nozzles. The use of downtubes ensures all the nozzles hang true and prevent the supply line itself becoming wet and constantly dripping. The anti-drip devices can open and close instantly when the pressure goes up or down upon opening and closing the water supply. This prevents dripping at the start and finish of watering and keeps the spraylines primed for instant, simultaneous start-up. Overhead Irrigation systems can only work effectively under a certain length. For longer structures the system must be split and designed with a double header pipe so that the irrigation runs on either side of the headers. Northern Polytunnels can design and illustrate such systems and provide full technical advice on installation.

If, however, you prefer pin nozzles, mist atomisers or any other type of sprinklers your requirements can easily be catered for. Likewise, if you don't require down-tubes or ant-drip devices these can be omitted with the price of these deducted. These kits are NOT TO BE CONFUSED with some of our competitors who only supply the spraylines, wire, strainers and standard pin nozzles. If you are comparing prices please REMEMBER to make sure it's on a like for like basis.

- 50mm O.D. manifold
- 32mm O.D. pre-drilled (M11 x 1.5m) spraylines
- PVC ball valves on each line
- Threaded end caps
- Brass snap coupling connections
- Glue
- Suspension wires
- Tensioners
- Hanging cord

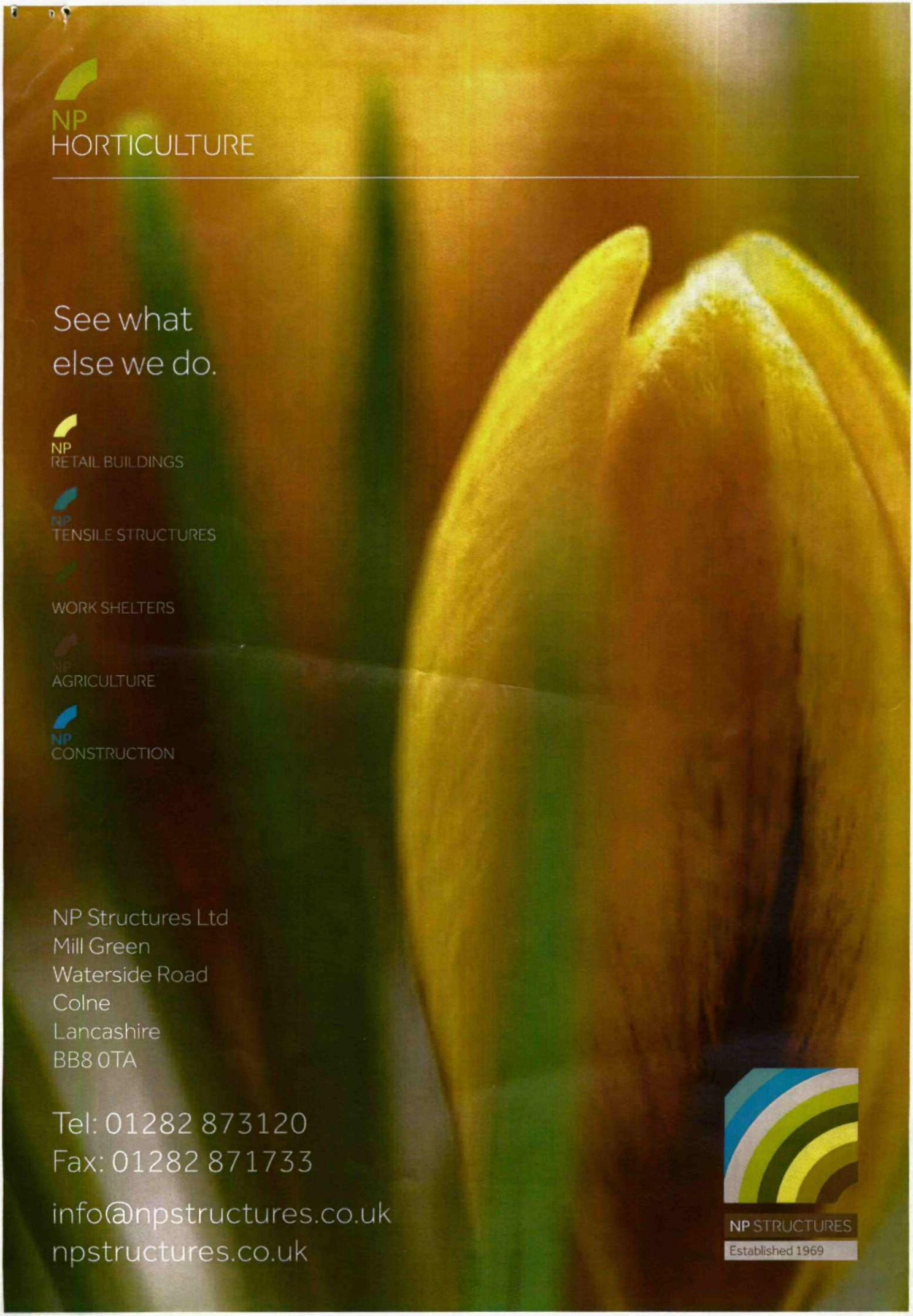




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