

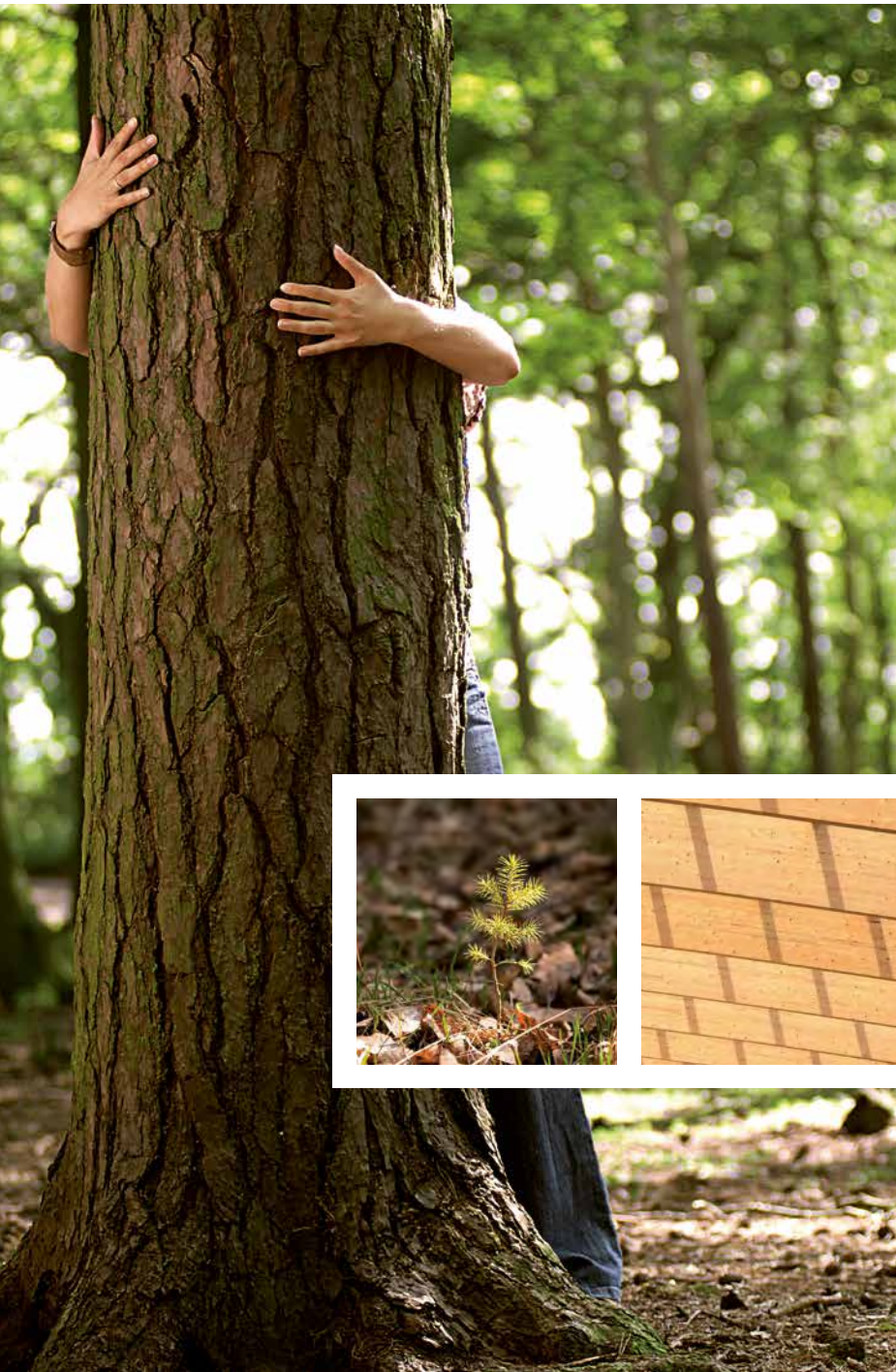
THECA

BUILDING SYSTEMS EXCELLENCE



MODULAR SWIMMING POOL ROOF STRUCTURE

Sustainable Timber



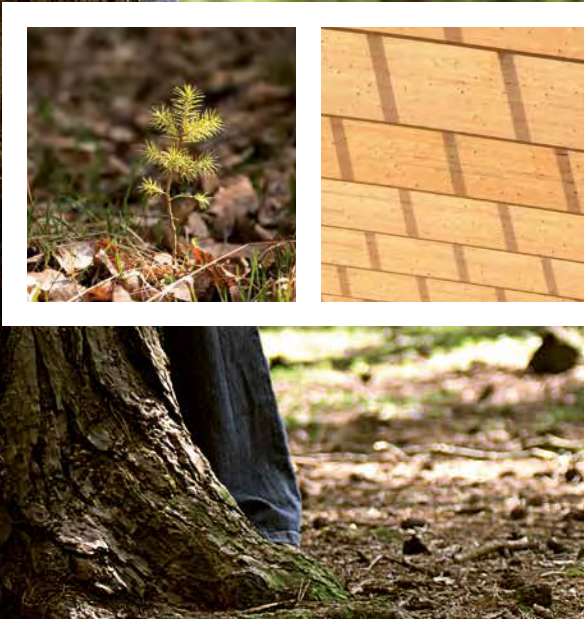
ENVIRONMENTALLY CONSCIOUS PLANNING AND CONSTRUCTION

Provides an active contribution to climate protection saving a minimum 100t of CO₂e

Timber not only is a natural construction material with outstanding properties in terms of building physics, but it also creates a relaxing atmosphere, offers excellent climate properties and can be re-introduced into the ecological raw material cycle without leaving any residues. Sound insulation and fire performance values are controllable parameters in construction of any size. As far as sustainability is concerned, timber clearly is the "Number 1" construction material.

Theca has designed and engineered a **swimming pool modular roofing structure**. These modular builds, which are engineered on the bases of a regular rectangle with a dozen combinations of widths and lengths to suit any type of outdoor pool area based on the properties of engineered timber construction. Their executive design can be easily extended or reduced in size thus immediately adjusting to changing requirements. The 100% prefabrication of this basic structure **reduces construction periods compared to conventional construction methods**.

- Australian owned and operated
- Total fabricated roof supplied by Theca Australia
- Polycarbonate interlocking roof system with 50+ UPF value
- Recommended architects and installers provided
- Project managed from start to finish by Theca Australia
- Fully engineered and certified prefabricated Glulam structure
- Bolt together pre-assembly for quick installation
- Maintenance free during design life



GLUED LAMINATED TIMBER



Stromlo Leisure Centre

PRODUCTION

Glued laminated timber, or glulam, is the beating heart of timber engineering. Several layers of spruce or larch wood are glued together in the direction of the grain and processed into customized glulam elements. Glued laminated timber offers excellent mechanical qualities and the **hi-tech production of our Manufacturing Partner Rubner Holzbau, based in Italy, makes every challenge very much the ordinary.** Extreme prefabrication with millimeter precision, the bespoke detailing and connection options, the pre-assembly of every possible connection in the factory, the shipment straight to site with just in-time site delivery are features that made Rubner Holzbau our choice no.1

STRONG AS STEEL BUT WITH CONSIDERABLY LOWER WEIGHT

Regardless of which type of wood we are talking about, spruce, pine or larch, having a similar load-bearing capacity as steel, **glued laminated timber scores with considerably lower weight and therefore allows constructions with large span widths but reduced footings.** Apart from being an extremely durable material, it also is fireproof and resistant to seismic impacts. Freshly felled and industrially dried, the raw lamellas are delivered from Rubner's in-house sawmill to the production site just-in-time to enter the fully automatized processing chain. Following a very strict quality control, up to 50 m long boards are produced by finger-jointing technique. These lamellas are then finally planed and glued and then formed into the desired shape in a pressing jig.

CNC-PROCESSING

Once the hardening and planing processes have been concluded, CNC machines cut the beams to the exact dimensions, according to the CAD design. **Laser-controlled drilling and milling tools provide for quality workmanship of millimetric accuracy.** Thanks to Rubner Holzbau continuous control mechanisms, they achieve a precision of the timber elements which falls well below tolerance limits. The girders can then be either painted or impregnated depending on requirements. In a final step, the steel elements are integrated.

RUBNER
holzbau

GALLINA POLYCARBONATE



COMFORT AND SUSTAINABILITY

Thanks to the various properties of dott.Gallina interlocking multiwall polycarbonate panels, it is possible to **maximize the benefits of natural resources such as solar lighting and sun irradiation**, with advantages in terms of comfort under the roofing structure due to the cut-off of infra-red (IR) rays responsible for the heating, improving air recirculation and removing greenhouse effect. All polycarbonate products are 100% recyclable and a minimum amount of energy is enough to reach the low melting temperatures for both production and recycling. The energy balance analysis, carried out in accordance with EN 12831 and cradle-to-cradle assessment strategy, highlights the greater fuel requirement necessary for a roofing using glass compared to the same surface using polycarbonate multiwall panels.

LIGHTNESS

Being lighter than glass, dott.Gallina polycarbonate interlocking system allow to maximize comfortable solar lighting, both translucent and opaque, greatly **reducing the size of the load-bearing supporting structure and the installation costs** both in terms of an easy-handling with smaller equipment and timing. Moreover, resistance performance is always guaranteed both for pressure and depression values as required by the current regulations.

UV PROTECTION

Using dott.Gallina co-extrusion technology, the external side of the panel is produced with a compound characterized by a high concentration of UV-absorbers. This peculiarity gives the product **high resistance against chromatic variations, hailstorms and accidental shock, even after a long sun exposure**. This ensures long lasting lifetime, reducing the weathering damage effects and delaying the natural PC aging. In addition, several treatments have been developed to further improve the solar irradiation management from the point of view of the sheet's durability (UV tech treatment) and to enhance the comfort in indoor environments (IR or Reflecto treatments) with consequent added human comfort.



Club Jubilee One

MODULAR AND FLEXIBLE GROWS WITH FUTURE REQUIREMENTS

Are you a City Council Member looking to upgrade existing outdoor facilities?

Are you an outdoor swimming pool administrator looking for a budget fee to arrange suitable funds for an improvement to your existing set-up?

Are you an Architect with desire for an out-of-the-box design and with reduced environmental impact?

Talk to us!

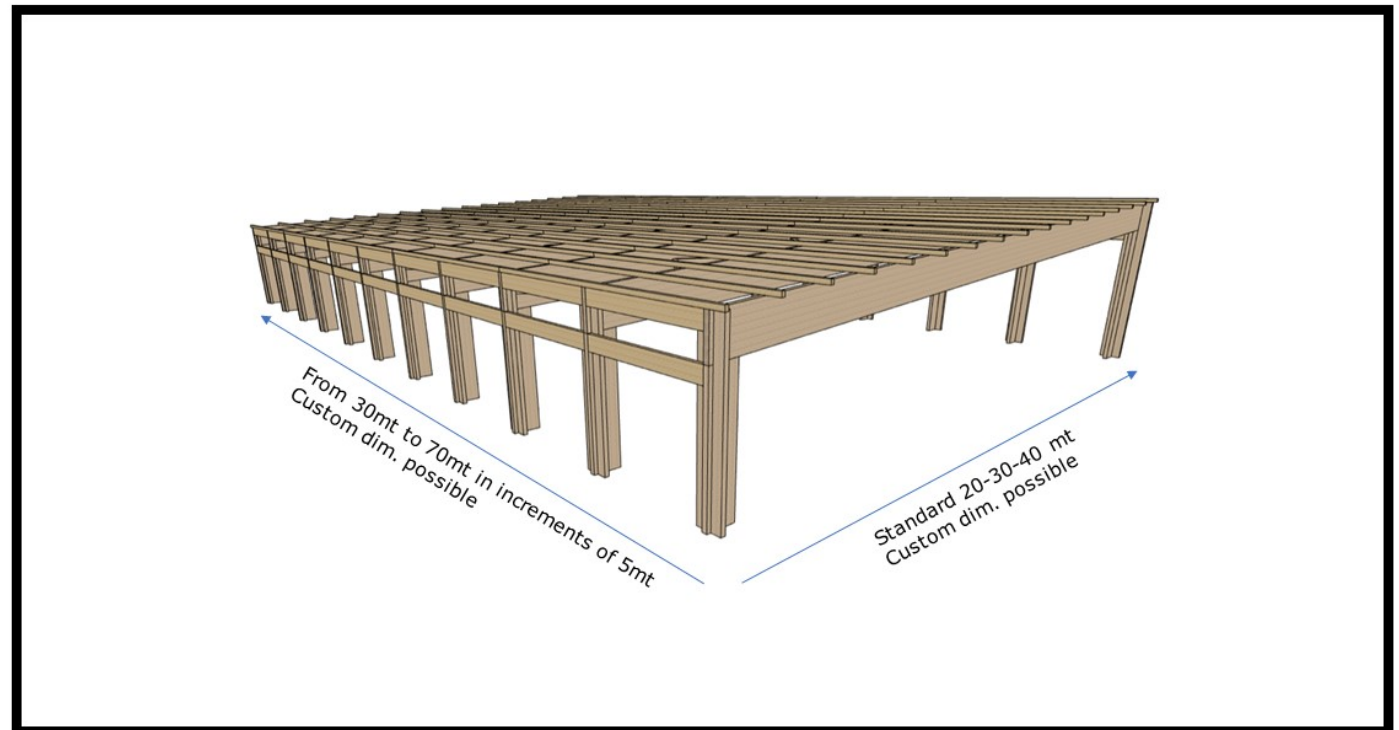
Full assistance from Theca Australia from design to engineering, from early budget proposals to a firm quote, from supply through to completion.

Contact details: Adam Shears

adam@theca.com.au

0417 317 866

03 9467 1195



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