
BUILT BY
JOOST

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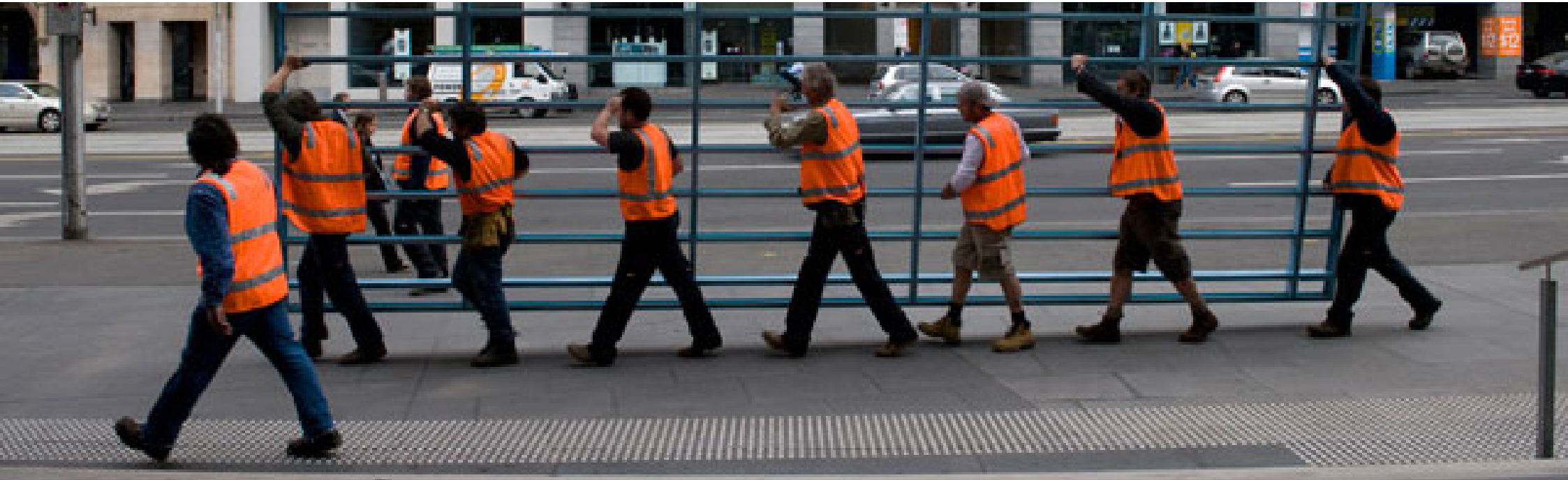
BUILT BY JOOST

Built by Joost is the construction arm of By Joost. The company offers sustainable design and buildings for commercial applications and sustainable building methods to all facets of the residential market. Built by Joost uses the Productive Building System™ developed by Joost Bakker; Joost's unique method of using straw bale insulation set into a recyclable steel frame.

Built by Joost challenges traditional construction methods and materials. Joost has initiated the development and production of formaldehyde free plywood and charcoal embedded Magnesium Oxide (MgO) Board. These significant advances in what are widely used materials are revolutionising the construction industry.



JOOST BAKKER

Joost Bakker is a discipline-crossing creative and visionary. Highly regarded for his distinctive aesthetic and design ingenuity, Joost has been commissioned to create large scale public installations, vertical gardens, event spaces and hospitality interiors throughout Australia.

Driven by making a difference to the world, Joost is attracting global interest in his desire for better nutrition, the use of natural and sustainable building materials and inspiring design.

Joost is a Director of Built by Joost.

IVO BALDARI

Ivo Baldari has over 15 years building experience working for various large scale building companies as well as running his own building company - IDB Developments.

Companies and projects that Ivo has worked with include;

- L.U Simons
- Hickory Developments
- Construction Engineering
- Grandview Apartments in Albert Park
- 15 Williams Street Melbourne
- Malt House, Sturt Street South Melbourne
- Kensington Banks Apartments

Ivo is the Managing Director (and leading builder) of Built by Joost.

GREG HARGRAVE

Greg Hargrave has had a distinguished career at one of the nation's leading staffing service providers, Skilled Group.

In 2000 he was appointed National Marketing Manager and Business Development Manager.

In 2003 he was appointed Chief Executive Officer and in the subsequent year assumed the additional responsibility of Managing Director, roles he held until to his resignation from the Board in 2011.

Greg has a broad business background with experience in property, management and private investment.

Greg is a Director of Built by Joost.

BUILT BY JOOST HOMES - GOOD FOR THE PLANET...

Built by Joost homes use sustainable design principles that minimise environmental impact by;

- Minimising ecological footprint through careful consideration of sourced materials, their lifecycle and the houses operation and maintenance
- Creating a ‘non-toxic’ home - no use of chemicals or harmful treatments on surfaces and in materials. Creating a safe working environment for the builders and the people who will ultimately live in the home!
- Encouraging a new perspective on building and the functionality of homes as a productive space to harvest food, water and energy - improving the local environment for ourselves and wildlife rather than exploiting it
- The use of straw bale insulation reduces the need for heating and cooling
- Maximise collection and re-use of rainwater
- Use of local labour and materials to reduce carbon emissions from transport

“Using buildings to create a habitat and add to biodiversity rather than taking away”

– Joost Bakker

BUILT BY JOOST HOMES - GOOD FOR YOU...

Built by Joost integrates design and construction with a complete project focus to deliver the most cost effective outcome. The Productive Building System™ is fast to construct and delivers a building with low embodied energy. Other benefits include;

- The buildings use energy efficient appliances and fittings, water saving plumbing and solar hot water to reduce energy bills

- Straw bale insulation in the walls and ceiling combined with good thermal mass (internal solid block walls) controls summer heat gain and winter loss

- Natural and sustainable materials such as select harvested timbers, formaldehyde free plywood and those with low embodied energy are used

- The prefabrication of building components ie. framework and trusses and the containerised kitchen and bathroom, accelerates the on-site building process and removes the need for plumbers, tilers and other tradesman to be on site

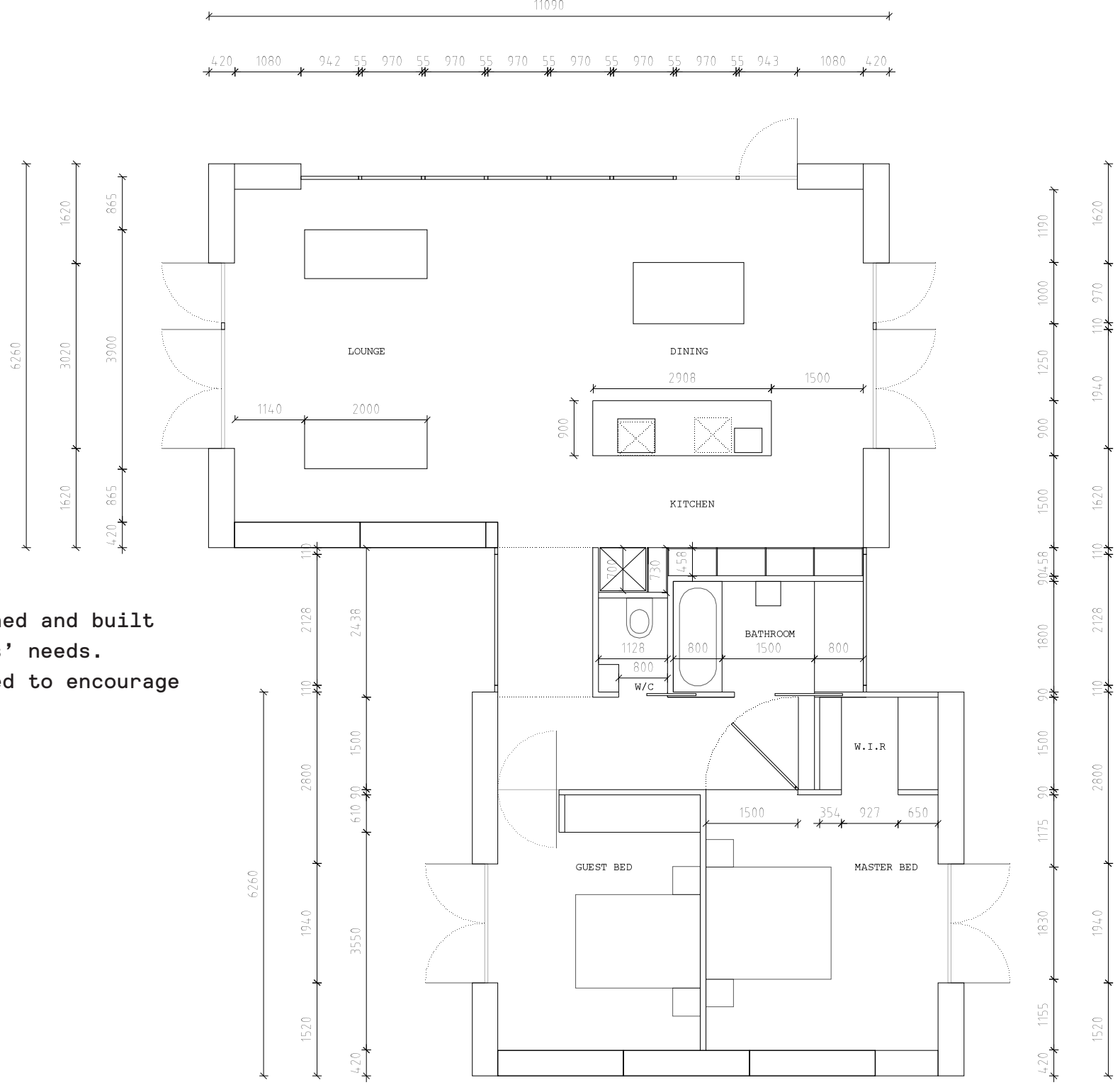
- Fire resistant and ideal for Australia's bush fire prone areas (CSIRO tested and approved)

BUILT BY JOOST

EFFICIENT DESIGN

EFFICIENT DESIGN

Built by Joost homes are designed and built specifically to suit the clients' needs. Efficient floor plans are designed to encourage engagement with the outdoors.



EFFICIENT DESIGN CONSIDERATIONS

ORIENTATION (SUN & SHADE)

Built by Joost homes utilise the sun in winter to generate ambient temperature and shade in summer to keep the building cool. Windows and doors are positioned for natural ventilation. Proximity and access to services, views and neighbours are considered.

MATERIAL CHOICES

Built by Joost use materials that are natural, non-toxic, long lasting and completely and easily recyclable. From non-toxic glues and silicones used in glazing and sealing around windows to the formaldehyde free plywood.

The surrounding landscape will influence the building materials and overall look of the building so it can sit well within its surrounds.

CROSS VENTILATION

Needless to say, the air that we breathe is as important to our health as the water and food we take. For years now, breathing in pure clean air, wherever we are, has become a challenge. This is because air, just like water, is easily polluted. Built by Joost homes are designed to naturally cross ventilate creating multiple fresh air changes. Well ventilated bedrooms are proven to aid in a good nights sleep.

EFFICIENT DESIGN CONSIDERATIONS

HARVESTING OF ENERGY

Solar and wind power choices are available as conductors of energy, whether the building is off the grid of not.

INSULATION

Straw bale insulation and solid block internal walls provide the thermal mass required to create a stable indoor temperature reducing the need to heat and cool.

WASTE

Built by Joost construction waste is minimal. Buildings are designed around standard material sizes and lengths.

INTERNAL DESIGN

Built by Joost considers external vistas, incorporating the outdoors into the design and creating a seamless holistic approach. Practical designs for easy living with naturally well lit spaces.

LANDSCAPE DESIGN

Built by Joost's philosophy is to minimise disturbance to existing vegetation during the delivery and construction of the building.

Innovative, functional landscaping can be provided to compliment the site.

ROOF SYSTEM

Built by Joost's unique roofing system offers the choice of either a planted roof top garden, a habitable deck or simply a low maintenance gravel finish. This system was developed together with the CSIRO and is credited to the fire resistance of the home as it prevents ember entry through to the roof cavity, a common factor in the loss of homes in bush fires.


BUILT BY
JOOST
MATERIALS

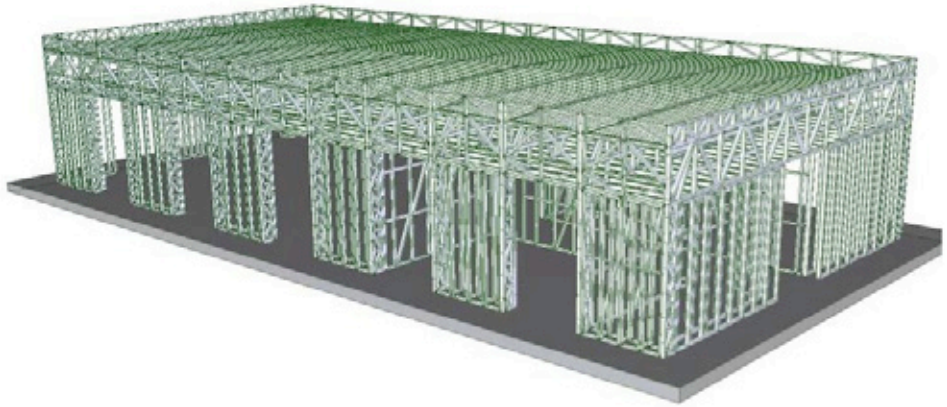
MATERIALS

LIGHT GAUGE STEEL FRAME

Built by Joost uses light gauge steel for its framework, making it incredibly strong and naturally termite, rodent, mould and mildew resistant. The steel frame is 100% non-toxic (unlike treated timber) and endlessly recyclable.

The light gauge roll formed steel is produced to specification using a steel framing machine. It cuts & rolls to length, fixing holes and location dimples into the steel through computer control. This allows frames or trusses to be manufactured with extreme precision, produces zero waste and makes for fast and simple construction.

Light gauge steel frames have performed incredibly well in earthquake zones and are now considered the safest building material in earthquake prone areas.



MATERIALS

BUILDING WITH STRAW

By Joost structures are insulated with locally sourced straw bales that are wedged into the walls, floors and ceiling. The roll formed steel is designed to fit these straw bales tightly and lock them in place.

Control of heat in summer and cold in winter is critical to the thermal performance of any home or building. As such the use of straw bales provides a high level of insulation (R7 - R-rating is a measure of thermal resistance) significantly reducing heating and cooling costs.

Straw is one of the world's largest and most problematic waste products and is typically burnt off, omitting carbon into the atmosphere. Straw from wheat, barley and rice is naturally resistant to termites. The CSIRO fire test also proved straw to perform exceptionally well in the bush fire scenario that the Built by Joost home was subjected to.

"The test results prove the house to be a viable option in bush fire prone areas"

- Alex Webb CSIRO Fire Safety Engineer

In addition to the environmental benefits of promoting straw as a natural building product, it also creates another income stream for farmers.

MATERIALS

Magnesium Oxide (MgO is the chemical symbol) board is naturally fire, moisture, mould and mildew resistant. It has strength and resistance due to very strong bonds between magnesium and oxygen atoms that form the MgO molecules. (see below for Wikipedia facts)

Purpose and use

- MgO board is widely used primarily as an alternative to conventional gypsum-based drywall (plaster board) The boards can be scored and snapped, sawed, drilled, and fastened to wood or steel framing
- It can be used for interior or exterior applications
- MgO board is a good example of the advances made in construction materials to meet changes in building codes for safety and durability

Applications

- Interior Wall and Ceiling Board
- Exterior Sheathing
- Trim Materials
- Fascias
- Soffits
- Shaft-liner & area separation wall board
- Tile backing and underlay
- Substrates for the application of natural coatings

Advantages

- Ratings and testing:
  - Fire-resistant (UL 055 and ASTM-Tested and A-Rated)
  - Waterproof (Freeze/Thaw-Tested for 36 months)
  - Mold/fungus/bug free (non-nutritious to mold, fungus, insects ASTM G-21)
  - Impact-resistant (ASTM D-5628)
  - NYC Approved (MEA # 359-02-M)
  - Silica/asbestos free
  - STC-Rated 53-54
- Can be used in the place of traditional drywall or cement boards. No special tools required
- Hard non-absorbent surface - no paper
- Can be used in applications like cement-based siding.
- Environmentally friendly - It is removed from ore at about 25% of the temperature (400-800 ºF) required to form CaO, the starting material for the preparation of slaked lime or portlandite used in common mortar and plaster
- Magnesia boards have been mentioned in articles about the biologically friendly construction

“MgO by Joost has 1/10 the carbon footprint of fibre cement sheet. It is cured at 40 degrees Celsius unlike fibre cement which is cured at over 1000 degrees Celsius. Like steel, it can be crushed and endlessly recycled for re-use.”

– Joost Bakker

MATERIALS

FORMALDEHYDE FREE PLYWOOD

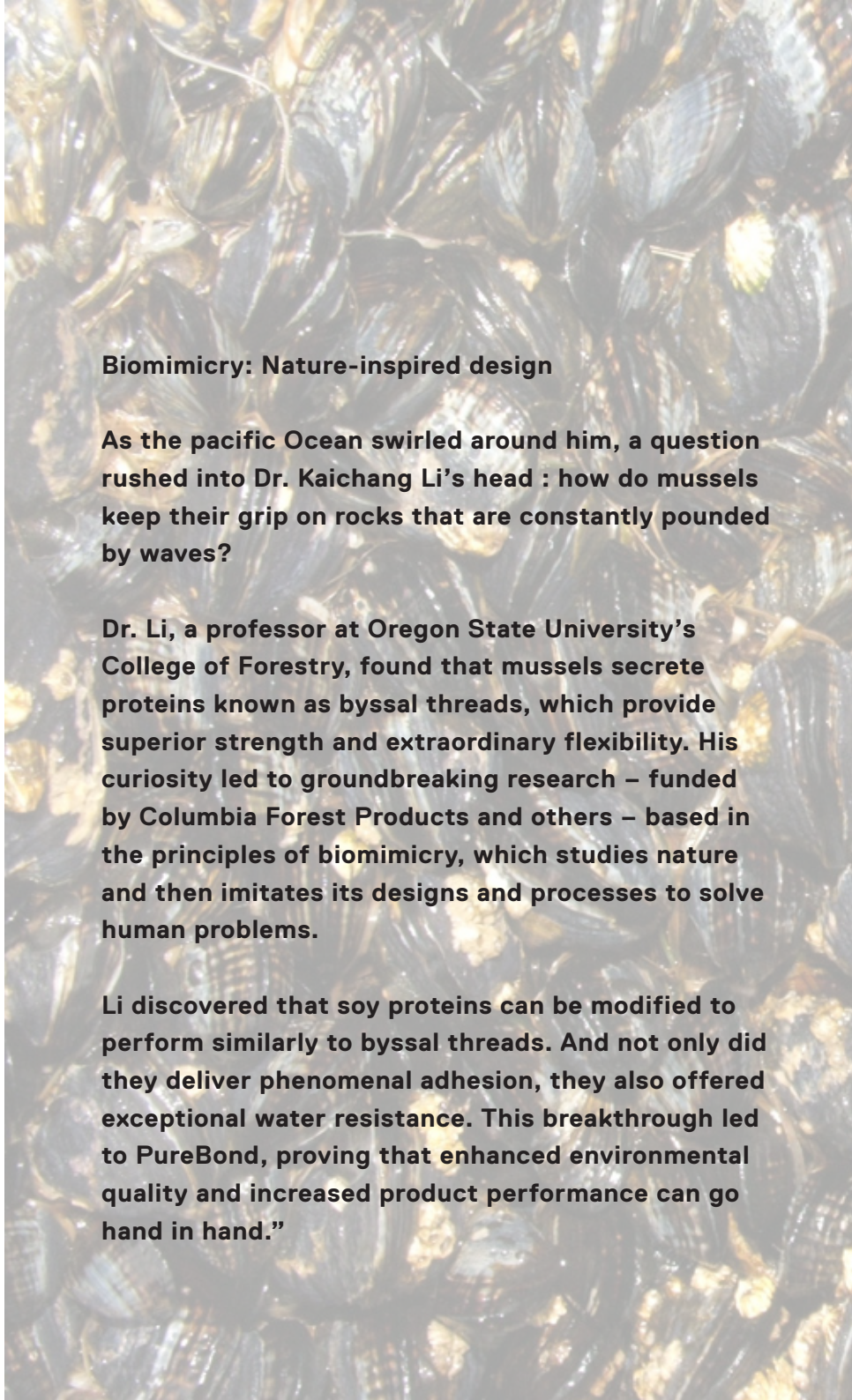
PureBond Plywood from Ashden Trading has zero VOC and most importantly is formaldehyde free. Formaldehyde is a chemical used in the bonding of building materials.

Formaldehyde can be toxic, allergenic, and carcinogenic. Because formaldehyde resins are used in many construction materials it is one of the more common indoor air pollutants. At concentrations above 0.1 ppm in air formaldehyde can irritate the eyes and mucous membranes, resulting in watery eyes. Formaldehyde inhaled at this concentration may cause headaches, a burning sensation in the throat, difficulty breathing, and can trigger or aggravate asthma symptoms (Wikipedia).

Purebond is plywood from sustainably harvested forests using soy based adhesives replacing formaldehyde as the glue that bonds the layers together.

“ Unlike traditional (formaldehyde) plywood, PureBond Plywood is competitively priced making it an affordable, sustainable and healthy option! Offcuts can be safely chipped and used for mulch and compost”

– Joost Bakker



Biomimicry: Nature-inspired design

As the pacific Ocean swirled around him, a question rushed into Dr. Kaichang Li’s head : how do mussels keep their grip on rocks that are constantly pounded by waves?

Dr. Li, a professor at Oregon State University’s College of Forestry, found that mussels secrete proteins known as byssal threads, which provide superior strength and extraordinary flexibility. His curiosity led to groundbreaking research – funded by Columbia Forest Products and others – based in the principles of biomimicry, which studies nature and then imitates its designs and processes to solve human problems.

Li discovered that soy proteins can be modified to perform similarly to byssal threads. And not only did they deliver phenomenal adhesion, they also offered exceptional water resistance. This breakthrough led to PureBond, proving that enhanced environmental quality and increased product performance can go hand in hand.”

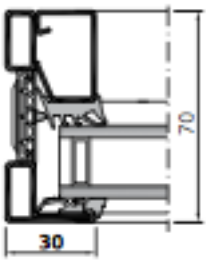
MATERIALS

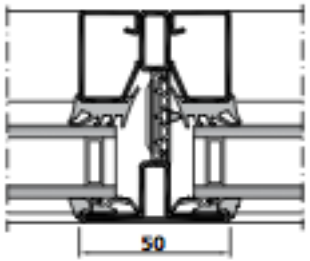
FORSTER UNICO FRAMES

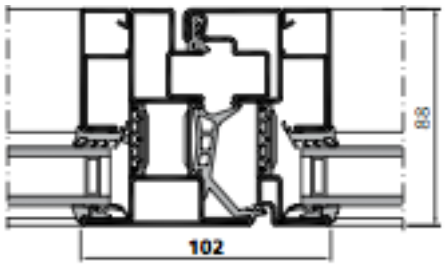
Forster Unico is the first ever thermally broken steel frame profile system with fittings and accessories for doors, windows and external glazing. It comprises 100% recyclable steel and no environmentally polluting synthetic insulating materials.

The thermal break prevents the heat transfer from steel window frames in the summer, and cold transfer in the winter.

Built by Joost has invested in Forster technology and equipment to produce these frames here in Australia allowing custom design and fast turnaround.







MATERIALS

NATURAL & LOW VOC PAINTS AND FINISHES

Built by Joost prefers to use natural paints, soaps and plant based oil finishes. Internal blocks are unsealed and the plywood floor and ceiling are sealed with velvet soap.

If and when necessary, low VOC emitting paints are used.

“I prefer to leave materials raw, allowing them to breathe which creates a healthy & stable internal environment”

– Joost Bakker

MATERIALS

KITCHEN/BATHROOM

Built by Joost plan kitchens and bathrooms to be efficient in both design and use of materials. The latest hot water technology and recyclable plumbing is used.

Optional shipping container

A deregistered shipping container can incorporate a kitchen and bathroom. The kitchen and bathroom container is built off site in as little as 8-10 weeks and then craned into position on the building slab. The container is designed to fit seamlessly into its interior decor, fixtures and fittings.

Miele

Joost is proud to be associated with Miele. Miele is founded on innovation, quality and longevity. German engineered to last 20 years their water and energy efficiency is market leading.

“I love the fact that Miele products are built to last and at the end of their life, easy to recycle”

– Joost Bakker

Caroma

Australian owned and Australian made, Caroma are world leaders at water saving technology. Joost is proud to have worked with Dr Steven Cummings on waterless urinals and urine harvesting.

Built by Joost uses Miele and Caroma products extensively.

BUILT BY JOOST

FIRE RATING

http://byjoost.com/2012/02/csiro-bushfire-testing/

CSIRO FIRE TEST

Built by Joost Homes have successfully passed the CSIRO fire test.

In March 2012 Built by Joost constructed a purpose built house using Joost's unique building system at the CSIRO fire testing facility in Bateman's Bay, New South Wales.

The 38 square metre house was erected in 7 days, and was subjected to a bushfire simulation, monitored and measured by Mr. Justin Leonard, the project leader for bushfire research at CSIRO's Sustainable Ecosystems.

The test was a simulation of a MAJOR FIRE FRONT, the worst-case bushfire scenario.

External temperatures reached 1000 degrees Celsius. The internal building temperature reached only 35 degrees Celsius.

Results:

- Built by Joost house withheld the extremes of a major fire front scenario
- The steel frame of the building reached 100-110 degrees Celsius during the test and maintained integrity
- The MgO board cladding performed exceptionally well and there was no significant damage (3 boards were tested: Modak, MgO Corp & Greenboard)
- Tremco sealants were used & performed well
- The Forster Unico Window Frame retained its integrity
- The Pilkington fire rated glass remained intact and there was no breach to the interior of the building

BUILT BY JOOST

PLANNING AND CONSTRUCTION

PLANNING AND CONSTRUCTION

PLANNING PROCESS

- Client briefing
- Site analysis
- Discuss floorplan, finishes, fixtures and fittings
- Schematic design / design development
- Engineering
- Cost estimate
- Town planning
- Documentation
- Structural certification
- Building permits
- Manufacturing of components
- Transport to site
- On site assembly
- Occupancy

PRICING:

From $1,800 - $2,400 per square metre

DESIGN CONSULTATION FEE:

5% fee of total estimated cost of build
(if engaged this fee is absorbed into the building cost)

STAGES OF CONSTRUCTION

- Foundations
- Slab (optional)
- Kitchen / bathroom container (optional)
- Delivery of 40ft container housing all building materials
- Construct frame (7 days)
- Waterproof cladding - flat recyclable steel
- Internal cladding
- Install MgO and pond (Butyl) liner on roof
- Install windows (Forster Unico Window system)
- External cladding
- Electrical roughing
- Install straw bale insulation (option recycled wool)
- Internal cladding
- Floor coverings
- Installation of cabinetry
- Sand and polish floors
- Fixtures and fittings

BUILT BY JOOST

PARTNERSHIPS

Miele

Caroma
Ashden Trading

BlueScope Steel
Dulux
Floorspace
Forster Unico frames
CSIRO
Apricus Australia
NASH
Master Builders Association
Housing Industry Association

BUILT BY JOOST

PAST /CURRENT /UPCOMING PROJECTS


COMMERCIAL

COMMERCIAL

GREENHOUSE BY JOOST MELBOURNE

project
Greenhouse by Joost
Federation Square
Melbourne Victoria 3000

design practice
Joost Bakker with
Bigger Than Ten Bears

project team
Joost Bakker
Georgina O'Connor

architectural drawings
Brendan Jones
(Antarctica Group Architects)

builder
Lexon Construction

structural engineer
Tim Gibney & Associates

building system
Aus Build-Tech & Joost Bakker

graphic design
Studio Pip and Co

time frame
Design and documentation
12 months
Construction: 2 weeks

walls
Rollformed BlueScope steel
Straw bale insulation

windows
Open Windows with no treatment

floors
Reconstituted plywood from Caterpillar pallets

lighting
Joost light shades made from recycled wire fencing powered by on-site solar panels
Queen B beeswax candles

kitchen
Miele kitchen appliances
Caroma Dorf tapware

bathroom
Caroma Profile 5 toilet suite with integrated handbasin
Caroma Dorf tapware

furniture design by Joost
Recycled wafer board chairs and tables. Courtyard chairs made from street signs. Courtyard tables made from street-side fire hydrant covers. Recycled rooftop stools (Merbau timber originally used to build an Opera Australia stage) upholstered in Hard Yakka vinyl billboard

artwork
David Bromley painting (onto Ford Motor Show panels)

glassware
Mark Douglass

COMMERCIAL

GREENHOUSE BY JOOST PERTH

project
Greenhouse Perth
100 St Georges Terrace
Perth Western Australia 6000

design team
Joost Bakker, Liquid Lines, Fitt De Felice and Georgina O'Connor

design practice
Joost Bakker
www.byjoost.com

project team
Joost Bakker
Trent Alexander
Georgina O'Connor
Elida De Felice

structural engineer
Tim Gibney & Associates

builder
Liquid Lines

building system
Aus Build-Tech & Joost Bakker

graphic design
Studio Pip & Co

landscape
Joost Bakker and Greg Palmer

flooring and windows
Restaurant floor designed by Joost made from recycled concrete & plastic pallets
Rooftop floor made from Atlantis Flooring recycled plastic
Steel framed windows with Viridian double-glazed glass

walls and ceiling
Roll formed BlueScope steel with straw bale insulation. Carter Holt plywood

lighting
Joost light shades. Parus LED grow lights for the rooftop garden

kitchen and bathrooms
Plaspanel splashbacks, sinks and benches. Caroma Profile 5 toilet suites with integrated hand basin. Caroma Zero2 urinals and tapware

furniture
Recycled wafer board chairs and tables. Courtyard chairs made from street signs. Courtyard tables made from street-side fire hydrant covers. Recycled rooftop stools (Merbau timber originally used to build an Opera Australia stage) upholstered in Hard Yakka vinyl billboard

COMMERCIAL

GREENHOUSE BY JOOST SYDNEY

project
Greenhouse Sydney
Circular Quay, Sydney

design practice
Joost Bakker
www.byjoost.com

project team
Craig Mullan
Georgina O'Connor
Arup

builder
Joost Bakker

structural engineer
Tim Gibney & Associates

building system
Productive Building System using
Frame Cad Systems

graphic design
Georgina O'Connor

time frame
21 days

walls & ceilings
Roll formed framecad steel
Straw bales
MgO Board

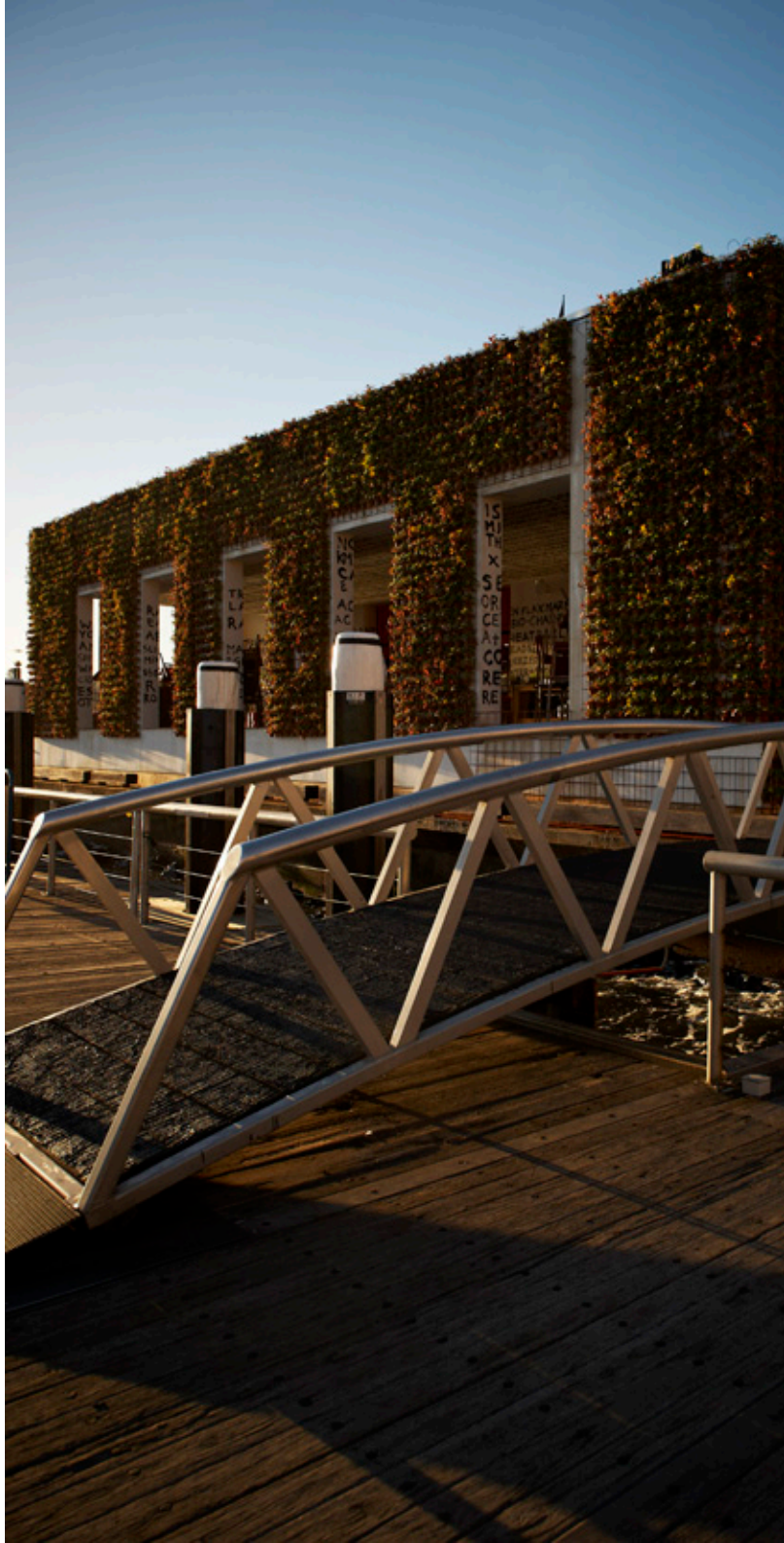
windows
Timber frames with Viridian Thermotech
double glazed glass

floors
recycled conveyor belts from Andromeda
Engineering

lighting
Queen B beeswax candles

kitchen & bathroom
Caroma sinks and benches, toilets,
Miele appliances

furniture
By Joost Squirt Chair and Table made
from recycled aluminum irrigation
pipes



COMMERCIAL

GREENHOUSE BY JOOST MELBOURNE MFWF

project
Greenhouse by Joost Melbourne Food and Wine Festival
Southbank, Melbourne

design practice
By Joost
www.byjoost.com

project team
Joost Bakker
Ivo Baldari
Tim Gibney

builder
Built by Joost

structural engineer
Tim Gibney & Associates

building system
Productive Building System using Frame Cad Systems

graphic design
Georgina O'Connor

time frame
21 days

walls & ceilings
Roll formed framecad steel
Straw bales
MgO Board

windows
N/A

floors
Recycled conveyor belts from Andromeda Industries

lighting
Queen B beeswax candles and tealights

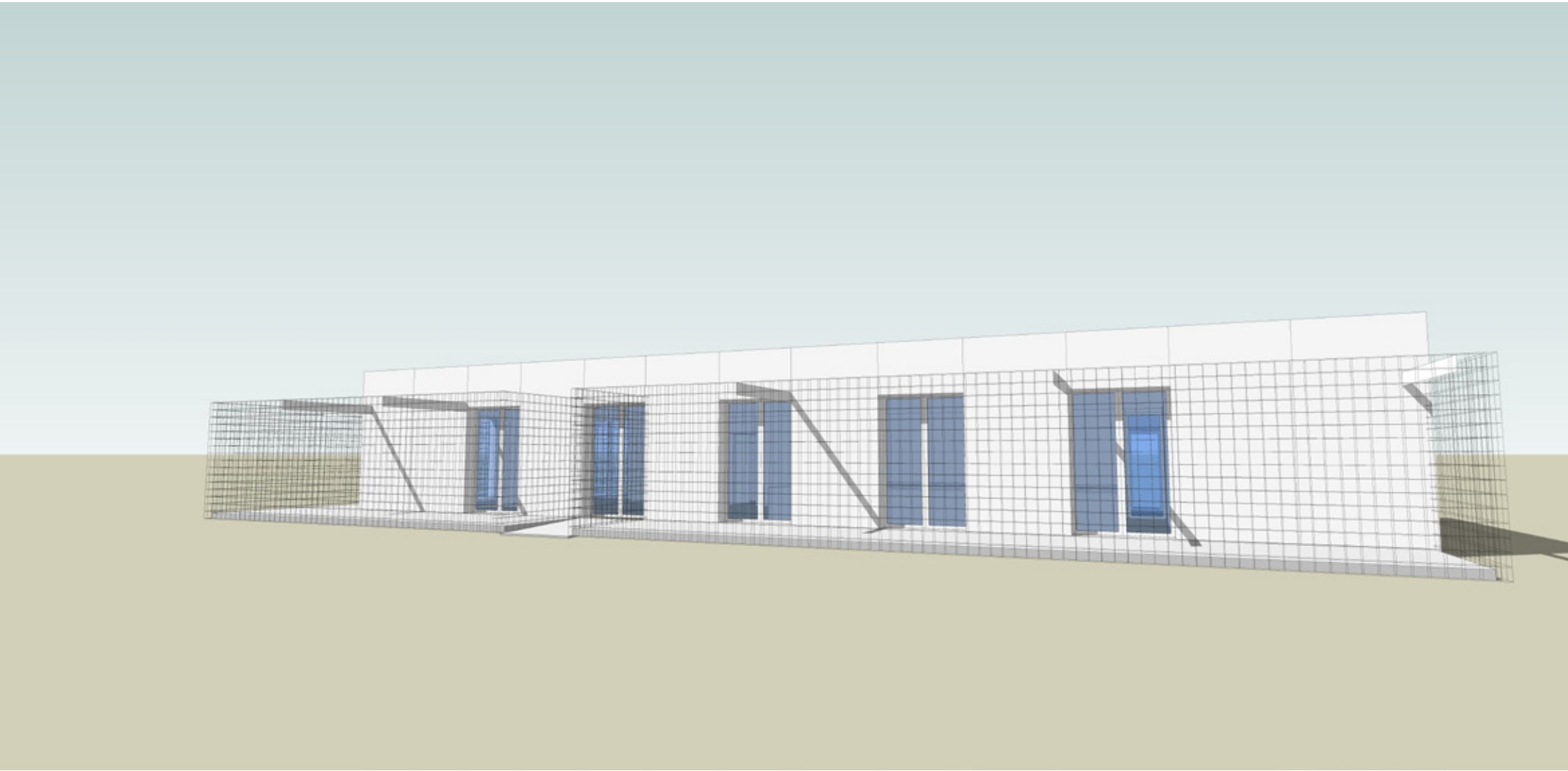
kitchen & bathroom
Caroma sinks and toilets, Dubbletten Swedish two bowl toilets. Miele appliances

furniture
By Joost Squirt Chair and Table made from recycled aluminum irrigation pipes

COMMERCIAL

MELBOURNE AIRPORT BUILDING

Build to commence in early 2013



RESIDENTIAL

RESIDENTIAL

MONBULK HOUSE

project
Family Residence

design practice
Antarctica Architects in collaboration with clients

design team
Joost Bakker
Jennie Bakker
Antarctica Architects

project team
Joost Bakker
Ivo Baldari
Arup
Georgina O'Connor

builder
Joost Bakker

structural engineer
Tim Gibney & Associates

building system
Telford Structuralised Frame and H & A Products folded t-sections

time frame
5 months

walls & ceilings
Galvanised Corrugated Iron and salvaged Woolloomoolloo Wharf timber from Timbersearch

windows
Viridian Thermotech. Galvanised steel framed windows

floors
Ply

kitchen & bathroom
Caroma sinks and toilets, Miele appliances

RESIDENTIAL

MONBULK HOUSE


PARAPLUIE-REVEL
LYON

RESIDENTIAL

DAYLESFORD HOUSE

Currently under construction - due for completion October 2012

project
Residential Home Daylesford

design practice
By Joost

project team
Joost Bakker
Ivo Baldari

builder
Built by Joost - Ivo Baldari

structural engineer
Tim Gibney and Associates

building system
Productive Building System

graphic design
Blanche Alexander

time frame
Design and documentation 8 months
Build 8 weeks

walls
Rollformed steel, straw bales, MgO board

windows
Forster Unico

floors
PureBond formaldehyde free plywood
Sisal by Floorspace

lighting
Joost Bakker - recycled mesh

kitchen
Miele

bathroom
Caroma

RESIDENTIAL

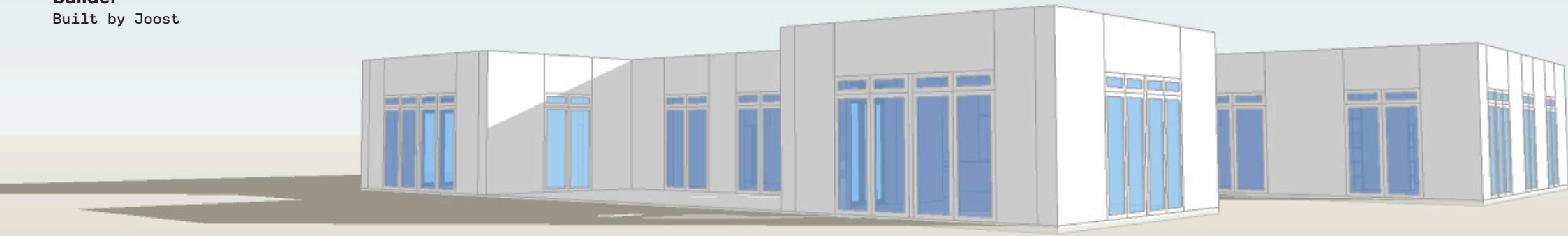
MERRICKS HOUSE

project
Family Holiday House

design practice
By Joost

project team
Joost Bakker
Ivo Baldari

builder
Built by Joost



RESIDENTIAL

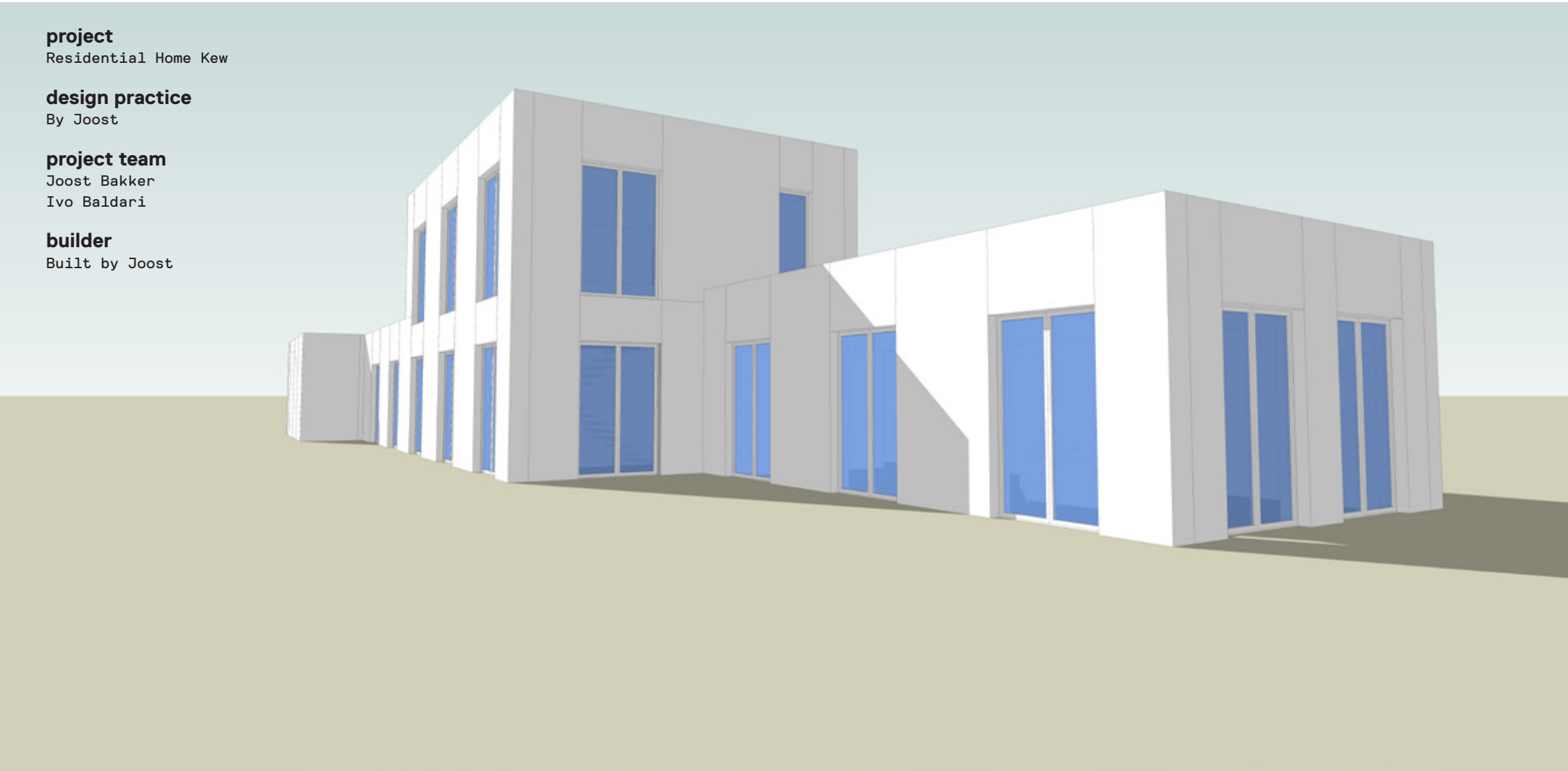
KEW HOUSE

project
Residential Home Kew

design practice
By Joost

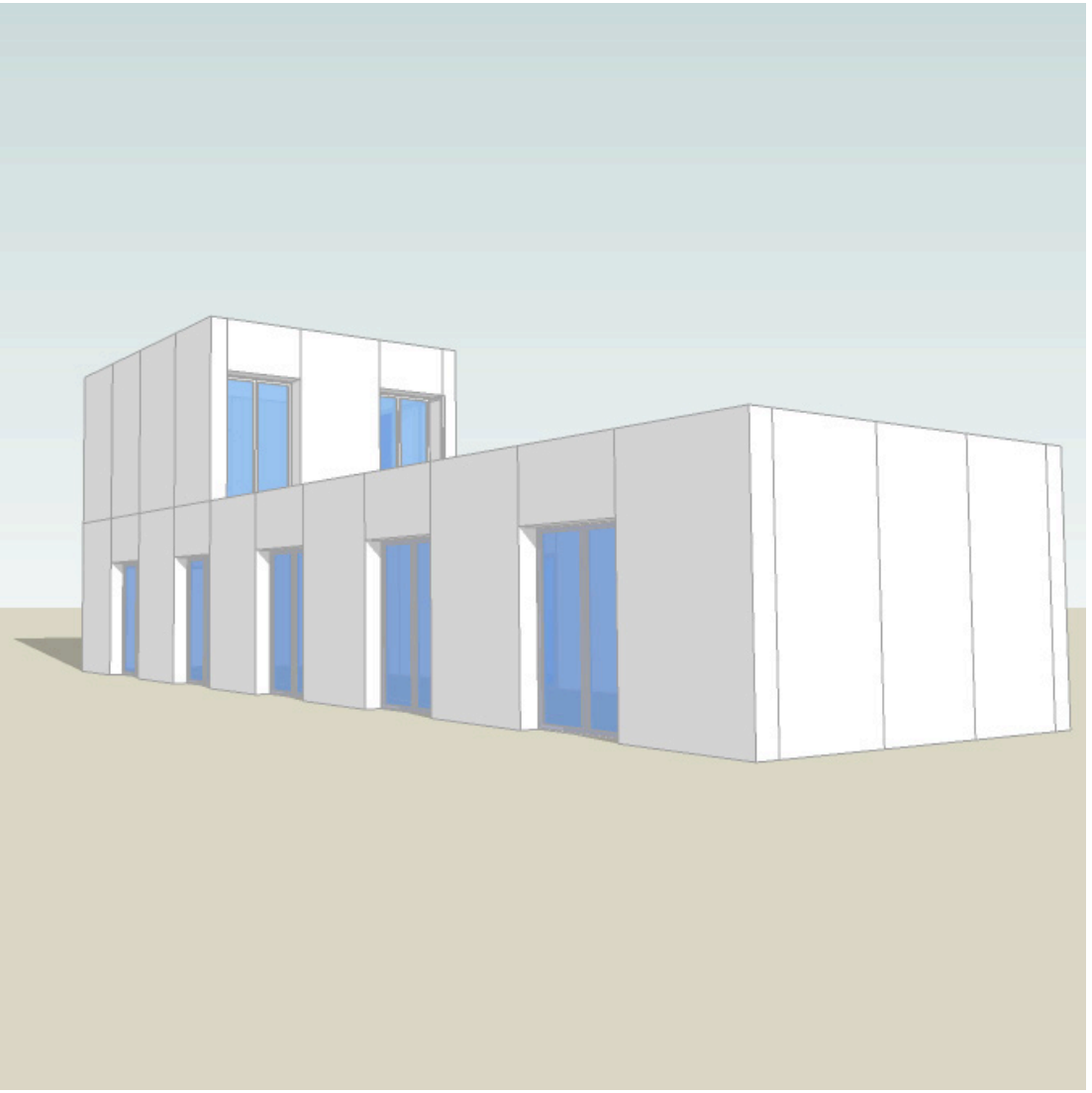
project team
Joost Bakker
Ivo Baldari

builder
Built by Joost



RESIDENTIAL

DAYLESFORD SUBDIVISION



RESIDENTIAL

CHRISTMAS HILLS HOUSE

BUILT BY JOOST

MEDIA

BUILT BY JOOST HOMES HAVE APPEARED IN A NUMBER OF PREMIUM DESIGN PUBLICATIONS

* First straw bale house on a vogue cover internationally

MEDIA

RECENT KEY MEDIA

THE WEEKLY REVIEW
GREENHOUSE BY JOOST
TUESDAY 15/03/12

SUNDAY AGE
GIVE PEE A CHANCE
SATURDAY 29/01/12

ABC 7.30
JOOST'S STRAW HOUSE
TUESDAY 10/04/12

BUILT BY

CONTACT

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— info@byjoost.com
— 0395001510