

THE LILYDALE AIR DOME

The Lilydale Shire has become the proud owner of the pneumatic roof for its far sighted development at the Kilsyth pool near Melbourne. This 70 metre X 38 metre structure encloses concourse areas, an olympic pool and a host of spa and adventure type water activity pools.

The air dome is pressurised with mechanical fans to keep it inflated and a standby generator, with automatic cut in, is installed in case of power failure.

A complementary dome shape storage facility at the eastern end of the complex will house the permanent mechanical and electrical equipment and the deflated fabric dome during the summer months.

The storage facility will also provide drive through access, via air locks, into the air dome. This access was designed

into the project for ease of transporting pool equipment, temporary grandstands as well as allowing handicapped and disabled persons ease of entry.

The success of this project should give a guide to the many councils in Australia saddled with ongoing revenue losses from tired open public pools.

Project Managers:

Concept and Fabric Consultant:

Structural, Civil and Hydraulic Consultant:

Mechanical and Electrical Consultant

Therapeutic and Recreational Pool Design

Fabric Dome Contractor:

Lilydale Shire Council

McWilliam Freeform

McWilliam Consulting Engineers

W O Ross and Associates

Antiwave Consultants

Spacetect Pty Ltd

MSAA ANNUAL CONFERENCE AND ACHIEVEMENT AWARDS

Melbourne, 26 & 27 July 1990 at 'Eden on the Park' Hotel Conference Centre
"The Expanded Horizons of Stressed Membrane Structures"

The forthcoming annual conference and biannual Achievement Awards presentation is to be held in Melbourne on 26 and 27 July 1990. This event includes the presentation of achievement awards for excellence in works carried out by this industry.

Those involved in the field are encouraged to submit projects for consideration in accordance with the documents being circulated regarding conditions and terms.

The conference theme this year is generalized to allow an unfolding of the diversity which this industry presents. Those interested in presenting papers should submit a short synopsis of title and content to the Secretary of the association by 9 February. Further advice will be circulated regarding the dates for submission of the completed copy. Please note this is a first call for submission of paper synopses.

The awards will be presented during the annual dinner on 28 July. Those interested in submitting projects for achievement awards should submit by 12 April to the Secretary of the association.

The conference will provide facilities for trade displays in the form of sign boards and we encourage interested parties to express their requirements for space early so that there is no disappointment.

In keeping with the developments last year we will again include a commercial segment in the conference to which we encourage involvement by those groups who are peripheral to the association.

A recently completed project segment will be provided whereby individuals can present slides of recent works to the conference.

PENINSULA FAIR - ATRIUM DOME

Brisbane Design & Construction firm Vesel Membrane Systems (Tension Span^W Structures) have recently completed the central atrium dome at Peninsula Fair Shopping Centre, Kippa-Ring, Qld, as part of a contract for six domes.



The dome is 20.5m x 20.5m in plan dimension with a height of 14.7m. The membrane is Seaman Corp Style 9034 Tedlar, shaped to flow over eight regular arches down to a square base.

The fabric dome is capped by a clear polycarbonate bubble of 6m diameter.

The large volume and scale of the space, combined with the soft shadow free light creates an ambience unique to tension membrane enclosures, without the heat load of conventional glazing systems.

The structure has already been tested in severe

130kph winds from a destructive Christmas Eve storm, and while other roof structures were citing the dome came through without the slightest damage.

Tension membrane structures are an economical and structurally viable way of enhancing large public spaces and introducing light without heat.

CHANNEL TUNNEL FABRIC

Verseidag Industrietextilien proudly announces that its research and developmental work into new applications of fabric membranes has resulted in producing and supplying for the English Channel tunnel, cylindrical woven ventilation tubes utilizing a coarse weave.

The tube is constructed with a Mack outer coating layer of special PVC formulation on a polyester weave. Through testing in West Germany it has been found that these tubes are more economical and much stronger than any welded tube when working with very high pressure over 30km.

Work is currently underway to supply similar tubes for a proposed sea tunnel between two Danish isles. The tube in this instance has a white outer layer coating.

This woven coated tube is available from Verseidag Industrietextilien GmbH for specialized tunnel work.

KEYSBOROUGH GOLF FACILITY



In the relatively flat and unadorned landscape of Keysborough, Victoria, a structure of high architectural merit has recently been completed. The new Golf City Driving Range will provide state-of-the-art golf facilities under and within this well expressed steel and membrane construction.

The membrane structure, a twin cone form by Spacetech, is a pure and refined product of their craft. Its flawless surface of Verseidag PVF laminated WC polyester glows in the rural landscape above the highly expressive steel forms. Designed jointly with Millar Sainsbury Mulcair, the membrane structure totally complements the curving suspended decks of the driving range.

Fabric Structure Design:
Architect:
Fabric Structure Engineer:
Photography:

Spacetech Pty Ltd
Millar Sainsbury Mulcair
Connell Barrow McCreedy
David McCreedy

NEW FABRIC SUPPLY AGENCY FOR VERSEIDAG

Europe's leading high technology fabric manufacturer announces the appointment of Fluorotex Pty Ltd of Melbourne as their exclusive Australasian agent.

Verseidag produces the complete set of industrial architectural and commercial materials including PTFE coated glass, PVC/Polyester in various finishes and a complete range of special industrial fabrics.

Verseidag is currently supplying the specially produced geotextiles which comprise the liner to the channel tunnel between the UK and France. Its history is dotted with such specialized productions of individual high technology materials.

This new agency relationship establishes a good link between Australian fabricators and this highly specialized membrane manufacturer.



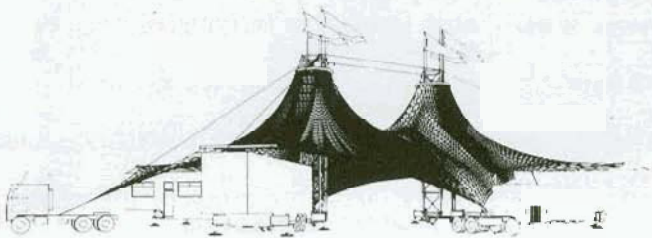
GREENSCENE NURSERY

Greenscene Nursery located at Carrum Downs on the outskirts of Melbourne is the site of Superspan's latest shadecloth construction.

Unlike any of its 'traditional' structures, the Greenscene shadehouse is the latest Superspan design. It features two large centre poles supported by smaller support poles placed around the perimeter of the rectangular shaped structure. A crane was used to stretch the white shadecloth up to the top of the centre poles to give the structure a 'circus tent' like appearance.

Using Superspan's unique 'moveable structure' technology, the structure can withstand the most violent winds. Aesthetically the striking structure has enhanced the nursery and will protect delicate plants from sun, wind, hail and frost.

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PROFESSOR VINC SEDLAK

Well earned congratulations are due to MSAA Founder Vinc Sedlak on his recent elevation to the status of Professor. Few can claim his international background of study, research, teaching and practical experience, not to mention organisational abilities from which we have all benefitted.

The field of contemporary structural systems in this country owes a debt to Vinc and we wish him well in his future endeavours.

PLEASE NOTE:-

All articles and presentations for Warp & Weft 9 are to be submitted to the Editor by the 31st May 1990.

CHEMFAB LEADS THE WAY IN SOUTH-EAST ASIA



MODEL OF WORLD TRADE CENTRE, SINGAPORE.
Courtesy SAA Architects.

CHEMFAB Pty Limited and their Singapore partners, I & M Prestressing Pte, have announced their success in obtaining notification of Award of Contract valued at \$S6.7 million (\$A4.2 million) for the design and construction of two SHEERFILL Teflon coated fibreglass atrium roofs in Singapore.

The structures are to be built at the World Trade Centre for the Port of Singapore Authority and will enclose a new Museum and Exhibition Hall.

The contract, won in the face of international competition from the United States, Japan and West Germany, will be completed late in 1991 and represents the first significant breakthrough of the Australian fabric structure industry in the region.

Compliance with Singapore's stringent energy and fire codes required extensive analysis and testing of the Teflon coated fibreglass cladding. This included a full scale fire test conducted in Singapore and exhaustive investigations concerning toxicity aspects of fabric membrane construction.

Les Thorogood, Managing Director of CHEMFAB Pty Limited, said, "This is the first step in establishing the Australian fabric structure industry as a force in the international market on equal footing to the traditional sources of fabric structure technology. Geographically it makes more sense for our neighbours in S E Asia to look closer to home in Australia than to Europe and the United States for working partnerships in an industry which depends so heavily on client relationships and service. I believe it is essential to the long term viability of our industry that Australian manufacturers become active in overseas markets instead of waiting for international competitors to erode our market base in Australia as has been the case until now."

Design Consultants:

Structural Consultants:

SAA Partnership, Singapore
CHEMFAB Pty Limited, Sydney
Bond James Norrie Marsden, Sydney

WIND TUNNEL STUDY

Work has commenced on the wind study of three cone structures of varying curvature.

A meeting was held in late January to clarify the scope of work of the study which is to be carried out by Vipac Pty Ltd with the support of CBM's Peter Lim and the technical subcommittee. Mr Ron Dutton, a post-graduate student from Canada, will be performing the work under the direction of Dr John Howell at Vipac's Melbourne Office.

Mr John Holmes, from the CSIRO's building, Construction and Engineering Division, and a member of Standards Australia Committee for Loading on Structures which is responsible for the production of the wind loading code also attended. He was able to give advice on the type of test procedures and data collection needed if we are to get the results put into the wind code (AS117Q2) Appendices.

The study is initially going to examine three cone structures of varying curvatures measuring surface and net pressures in both local and patch arrangements. Work is commencing immediately in making the first of the wind tunnel models. It is hoped that the study will be completed in three months.

We look forward to sharing with you the results of this important study later this year. Any association members who wish to know more about this study or who are interested in working in the technical subcommittee please contact the Chairman of this Committee:

Brian Dean
Connell Wagner Pty Ltd
60 Albert Road, SOUTH MELBOURNE 3205
Ref 1108R

BLEWETT FORD

Many car retailers have recognised the importance of protection for their car yards. In a recent storm in Ballarat, Victoria, hail caused tens of thousands of dollars damage to cars.

One car retailer, Blewett Ford in Coffs Harbour has opted for a Superspan Shade structure. Not only will this structure provide protection from damaging sun and hail, it also gives a cooler environment for customers and staff. Furthermore, the striking sail-like features of the structure enhance the aesthetics of the car yard.

The unique design of the Superspan structure ensures maximum strength during periods of high wind and will ultimately extend its lifespan.



UNIVERSITY OF NEW SOUTH WALES

School of Architecture Professional Development Programme

- 6 March - 15 May **POST MODERNISM IN ARCHITECTURE**
- 7-8 March **Bill Lawson**
- 16 March - 27 April **aw |**
- 28 March **TRAFFIC NOISE REDUCTION IN OF RESIDENTIAL BUILDINGS**
Geoff Le Sueur (UNSW)
Stuart McLaughlan (SPCC)
- 23 March - 3 June **LIGHTWEIGHT STRUCTURES**
6 part series, LSRU, Computer Lab *
Vinzenc Sedlak
- 6 April - 18 May **HERITAGE RELICS IN SYDNEY BUILDINGS**
Don Godden, Richard Mackay
- 28 April - 27 May **BOARD'S LAST EXAM 1990 - REVISION COURSE**
3 weekends, 9-5pm, M146, \$950
- 21 May or 28 May **INTERVIEWING & COMMUNICATION WITH CLIENTS - A COURSE FOR ARCHITECTS**
Dr Susan Ballinger

For more information or registration in any of the above courses, please contact Laura Licari, Continuing Education Coordinator/Secretary, School of Architecture, PO BOX 1, Kensington 2033, Phone 697 4780, 697 4788.

FABRIC STRUCTURES - A GROWING MARKET IN THE USA

An increasing acceptance of air and tension structures is contributing to growth in the Architectural Fabric industry. IFAI forecasts this market to represent roughly 1.5 to 2.5 million square yards of fabric with growth estimated to be 15 percent in 1990.

Air and tension structures can be broken down into three distinct markets: air-supported structures, tension structures and air-inflated structures.

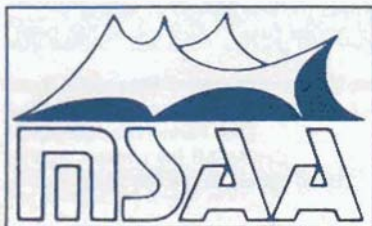
Air-supported structures are membrane structures in which the occupied area is pressurized continuously by air blowers. Tension structures use cables, poles or arched trusses to support the fabric. Air-inflated structures

consist of a series of pressurized arched fabric tubes, similar to walls, to make up the structure.

Applications for these structures include pavilions/exhibits, band shells and structures for special events, department stores and mall coverings.

Recreational uses include indoor tennis courts, driving ranges, stadiums, tracks and swimming pools. Industrial uses include protection coverings, temporary shelters for use in winter construction and storage facilities.

The fabrics used in this segment include PVC-coated polyester, Teflon-coated fibreglass, silicone-coated fibreglass, urethane-coated polyester, light-weight nylon and PVC-laminated polyester.



This Newsletter is produced by the Membrane Structures Association of Australasia. Address all enquiries and articles to:

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