

Guidelines for Shade Structures

Background

Following a NSW member meeting in 2009, Specialised Textiles Association (STA), known then as STA, established a sub-committee made up of NSW members. The focus of the sub-committee was to focus on the problems faced by members in NSW brought about by a reported change of policy by the NSW Education Department concerning the use of fabric shade structures in schools. The Department's shade policy as set out in their "Sunshade in Schools" brochure confirms a stance which does not support the use of fabric tension structures, but instead favours hard roof structures on the basis of perceived higher maintenance and insurance costs. This also stems from a view held by the Department that fabric structures are temporary in nature, prone to being easily damaged and a potential safety risk if not properly designed and installed

The following are recommendations for minimum engineering and installation guidelines for adoption and promotion by STA. The general aim of these guidelines is to promote good practices and sound design principles.

Important Notice

These Guidelines do not constitute professional advice. They are general in nature and may not adequately deal with all circumstances. Members should carefully evaluate these guidelines, and make their own assessment of their completeness, application and relevance for any particular purpose. Members should exercise due care and diligence and obtain all engineering and other appropriate professional advice as may be required. STA is not responsible for any direct, indirect, incidental, consequential or any other damages, losses, claims, costs expenses arising out of or in connection with these Guidelines or any reliance upon them. This includes any personal injury, business interruption, lost profits, or any other pecuniary loss whatsoever.

Recommendations

The following are STA recommendations to members to form the basis of minimum standards that should be adopted in the design, construction and delivery of tensioned shade structures.

1. The design of shade structures shall be depicted on scale drawings which include the following:-
 - a. sufficient detail to fully describe the structure
 - b. proposed location and site address of structure
 - c. plan view and two elevations
 - d. details of connections

- e. details of footings
- f. size of all structural elements
- g. grades of materials shall be specified
- h. designers name and details
- i. drawing number, drafters name and date
- j. revisions shall be clearly shown, numbered and dated

2. The design and situation of shade structures shall be carried out taking account of the following:-

- a. discourage, prevent or minimize possibility of access by non authorized personnel
- b. include signage discouraging access
- c. avoid proximity to other objects which may assist access (e.g. fences, playground equipment, other buildings and vegetation) and/or where appropriate incorporating climbing barriers.

3. The following aspects of shade structures:-

- a. Supporting structure
- b. Footings
- c. Fabric
- d. Cables and fittings
- e. Attachment to other structures shall be

designed, checked and certified by a registered professional engineer where required. The check shall be carried out against relevant Australian Standards and sound engineering principles. The design certificate shall include the following:-

- f. reference the design drawings by number and revision
- g. indicate the loadings used
- h. indicate soil properties adopted and whether assumed or by test
- i. design standards governing the design
- j. site address or relevant wind category
- k. certifying engineers credentials and relevant professional registration.

4. All factory and site works shall be carried out by or under the direct supervision of accredited operators and shall be in accordance with the relevant Australian Standards and be covered by appropriate public liability, workers compensation and other relevant insurance.

5. Membrane fabrication will be done with due consideration of the inherent performance characteristics of the fabric so as to optimize the proper fit, strength, stability and UV protection offered by the structure.

6. The finished shade structure shall utilize components which best meet the guidelines recommended by relevant bodies and Australian Standards.
7. The supplier shall provide the owner with a user's manual which shall include recommendations on a maintenance and inspection program to maximize the life and safety of the structure.
8. If required by the local authority or the owner, a registered engineer shall inspect the works on site at appropriate times with a view to providing a certificate stating that the completed work complies with the approved design drawings.
9. All works shall meet with local authority approval.
10. STA members will exercise due care and skill in following these guidelines and do all else necessary to provide customers what they have been contracted to supply.