



# Architec 400®

EXTRA HEAVY DUTY KNITTED SHADECLOTH



*Protecting people just like you*

**ARCHITEC 400®** is an extremely strong knitted shade cloth that has been designed for very large commercial tension membrane structures and shade sails.



# Architec 400<sup>®</sup> EXTRA HEAVY DUTY KNITTED SHADECLOTH

## Architec 400<sup>®</sup> is tough under the sun

Architec 400<sup>®</sup> is a 400gsm High Density Polyethylene (HDPE) fabric with an excellent weight to strength ratio. It has very good tensile strength and is extremely resistant to tearing.

Architec 400<sup>®</sup> incorporates the latest in Ultra Violet (UV) stabilizers. These new generation stabilizers extend the UV life of the fabric so that Polyfab can now offer a 15 year warranty – the best industry warranty available (conditions apply). These new UV stabilizers also provide improved color consistency and colorfastness.

## Introducing Ovalon™ our propriety monofilament yarn

Architec 400<sup>®</sup> contains no flat tape.

Instead it is made from a combination of monofilament yarn and our new Ovalon™ monofilament yarn.

Ovalon™ provides excellent strength and has minimal stretch in both the Weft and Warp direction of the stitch pattern and will maintain its tension. It also provides very high UV protection over 90%.

With Ovalon™ you get the strength of monofilament yarns combined with the UV protection of tape.



## Architec 400<sup>®</sup> is good under tension

Shadesails using Architec 400<sup>®</sup> should be well designed and engineered to hold the fabric under the tension it deserves.

The fabric should be supported by using appropriate strength poles and footings as determined by a professional engineer, and fabricated and installed by a qualified contractor in accordance with local building codes.

## Architec 400<sup>®</sup> is easy to work with

Architec 400<sup>®</sup> has been pre-stentred to reduce shrinkage and improve the stability of the fabric. This process improves the workability of the fabric during the fabrication and installation of the shadesails or shade structure.

### Technical Specifications

|                                       |        | WARP | WEFT  |
|---------------------------------------|--------|------|-------|
| Breaking Force (per ASTM D-5034)      | lbs    | 342  | 270   |
| Elongation at Break (per ASTM D-5034) | %      | 87   | 96    |
| Tearing strength (per ASTM D-2261)    | lbs    | 41   | 38    |
| Mullen Burst (per ASTM D-3786)        | lbs/in | Face | 593   |
| Ball Burst (per ASTM D-3787)          | lbf    | Face | 450+* |

\*(Remarks: + Exceeds capacity of tester.)

| Colors         | Cover Factor | UVR Block % | CALCULATED UVE % | Protection Category | Shade Factor | SRI |
|----------------|--------------|-------------|------------------|---------------------|--------------|-----|
| Turquoise      | 92.6         | 91.0        | 90.0             | Effective           | 84.7         | NA  |
| Porcelain      | 93.5         | 92.3        | 91.0             | Very Effective      | 73.0         | 87  |
| Cappuccino     | 96.1         | 95.8        | 95.0             | Most Effective      | 86.6         | 36  |
| Aquamarine     | 95.2         | 94.5        | 93.0             | Very Effective      | 91.0         | 31  |
| Navy Blue      | 95.2         | 94.3        | 94.0             | Very Effective      | 92.4         | NA  |
| Midnight Green | 94.7         | 94.6        | 93.0             | Very effective      | 93.1         | NA  |
| Orange         | 94.7         | 94.8        | 93.0             | Very effective      | 84.7         | 61  |
| Golden Yellow  | 91.4         | 91.4        | 89.0             | Effective           | 69.1         | 79  |
| Grape          | 87.3         | 87.0        | 88.0             | Effective           | 77.6         | NA  |
| Lime           | 95.3         | 95.3        | 94.0             | Very Effective      | 88.0         | 56  |
| Slate          | 95.3         | 95.2        | 94.0             | Very Effective      | 95.0         | NA  |
| Black          | 96.6         | 96.5        | 95.0             | Most Effective      | 97.2         | 1   |

SRI - Solar Reflectance Index (per ASTM E 1980). NA - results not available at the time of print.

According to revised Australian standard AS 4174:2018 for knitted and woven shade fabrics, "The objective of the Standard is to provide requirements for the classification, performance and labelling of knitted and woven shade fabrics for horticultural and human protection uses."

"Shade fabrics shall be classified according to ultraviolet effectiveness (UVE), and human protection category ... shall be designated with a protection category in accordance with Table 3.1."

**TABLE 3.1**  
Ultraviolet Effectiveness (UVE)  
Classification System

| UVE (%)      | Protection category |
|--------------|---------------------|
| 80.0 to 90.9 | Effective           |
| 91.0 to 94.9 | Very effective      |
| 95.0+        | Most effective      |

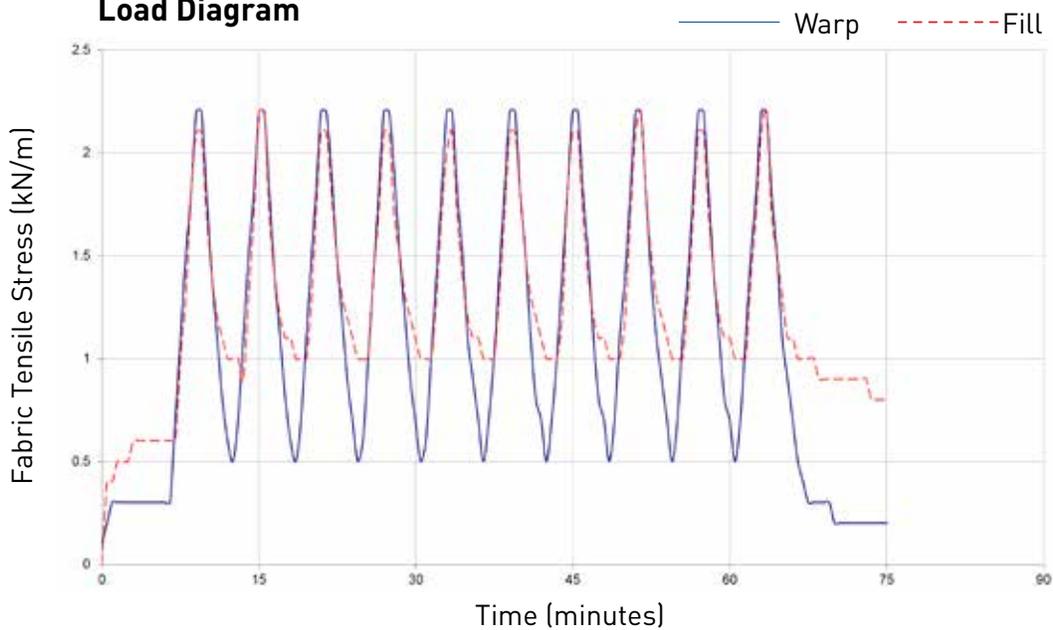
Architec 400<sup>®</sup> is available in 12 designer colors.



Fire Standard Compliance  
Architec 400<sup>®</sup> complies with fire standard: ASTM E-84 (Class 1 or A rating)

# Biaxial Loading Test Reports

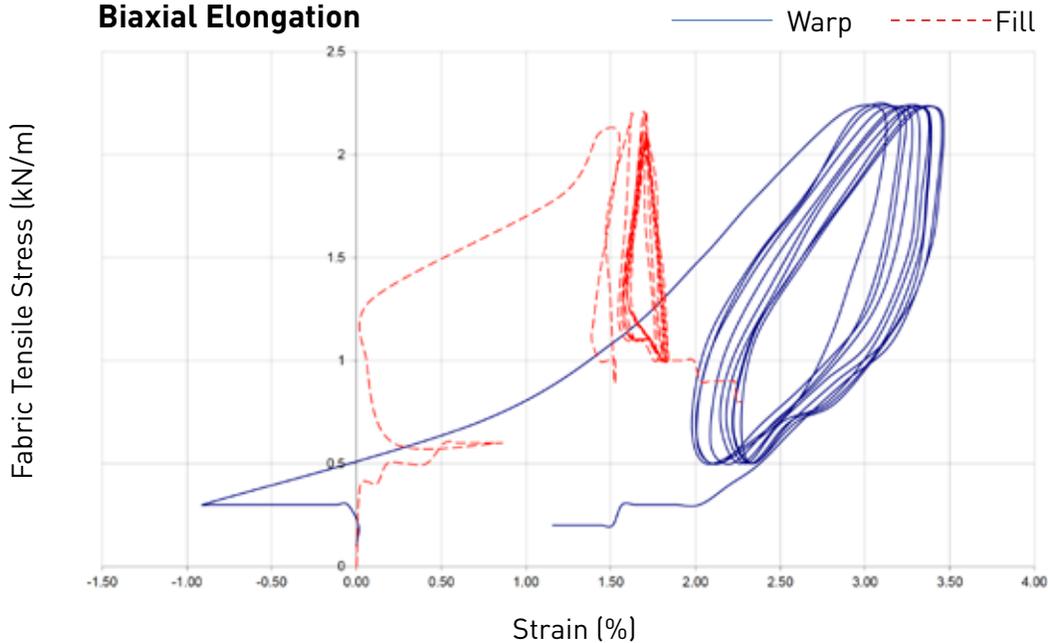
## Load Diagram



### BIAXIAL STRETCH TEST REPORT

|                     |                           |
|---------------------|---------------------------|
| <b>Client</b>       | Polyfab Australia Pty Ltd |
| <b>Supplier</b>     | Polyfab Australia Pty Ltd |
| <b>Material</b>     | Architec400               |
| <b>Roll No.</b>     | N/A                       |
| <b>Stress Ratio</b> | 1:1                       |
| <b>Test Date</b>    | 20/10/2016                |

## Biaxial Elongation



### BIAXIAL STRETCH TEST REPORT

|                     |                           |
|---------------------|---------------------------|
| <b>Client</b>       | Polyfab Australia Pty Ltd |
| <b>Supplier</b>     | Polyfab Australia Pty Ltd |
| <b>Material</b>     | Architec400               |
| <b>Roll No.</b>     | N/A                       |
| <b>Stress Ratio</b> | 1:1                       |
| <b>Test Date</b>    | 20/10/2016                |

### Available sizes:

12.5 feet (width) x 55 yards (length)  
straight rolls (not folded)

### Nominal weight:

12 oz. per square yard

[www.PolyfabUSA.com](http://www.PolyfabUSA.com)

### Product Disclaimers:

- Polyfab shade cloth is engineered to comply with the Building Code of Australia's general requirements for flammability (FR). Test data available upon request.
- The above information represents the results sourced from third party testing authorities, and tolerances may vary by as much as 10%.
- The Manufacturer reserves the right to alter or modify product specifications and colors without notice, and assumes no obligation or liability for the suitability and use of its products other than those applications intended by the manufacturer.
- Colors shown may not be an exact representation of the actual product.

- Outdoor fabrics are subject to harsh conditions and degradation over time is to be expected. Architec 400® is supported with a 15 year UV warranty. During this period the fabric will remain serviceable and fit for purpose. Color fading is normal over time. Colors containing red and yellow pigments have a tendency to fade more than others. This is not a loss of strength caused by UV breakdown and is not covered by the product warranty. For more details refer to the supporting Polyfab product warranty.
- Polyfab USA assumes no liability in the event of negligent installation / fabrication or application or choice of cloth.
- During installation, Polyfab shade cloth should not be subject to "pre-stressed" loading in excess of 20%.



This structure was installed in 2000 and is still exceeding customer expectations

