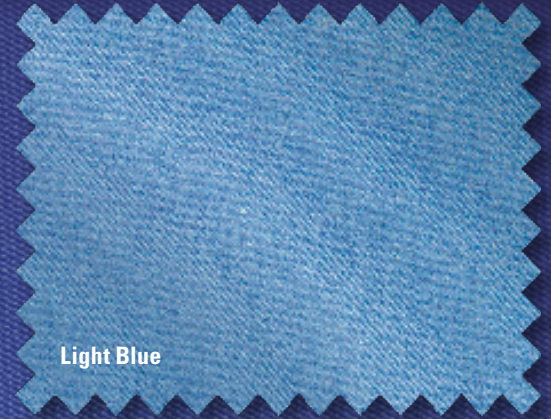




# Tecasafe® plus

# UNBEATABLE ELECTRIC ARC PROTECTION



TenCate Tecasafe® Plus is a comfortable, light-weight fabric with inherent heat and flame resistant properties. NFPA 70E compliant, it provides durable and affordable electric arc protection to electricians, electrical contractors, and other professionals with potential exposure to electric arc flash. Below, you will see how this inherently flame-resistant fabric provides superior protection and outperforms the competition. There's also Tecasafe® Plus Hi-Vis yellow. No need to wear a separate Hi-Vis vest over your flame resistant shirt.

One of the bigger risks electrical workers encounter when working with live circuits is electric arc. An electric arc is created through an accidental short circuit. The duration of the arc is short, but the effects can be devastating. The electric arc acts like a powerful explosion, sending out a shockwave, molten metal and high-intensity radiant heat. This combination of elements can cause a worker's clothing to ignite, melt instantly or cause the clothing to break open, resulting in severe skin burns.

Tecasafe® Plus will protect the worker from the thermal hazards associated with electric arc incidents and minimize or completely prevent skin burns. The fabric will provide thermal insulation between the body and the heat source. It will not ignite, melt, or break open.

- **Inherently flame resistant** – FR properties are built in, and won't wash or wear out. Exceeds NFPA 70E HRC 1, HRC 2, and NFPA 2112 performance standards.
- **Comfortable to wear** – Soft and breathable. Superior moisture management because of special cellulosic fiber content.
- **Exceptional durability** – Outstanding abrasion resistance and better strength retention after multiple commercial washes.
- **Outstanding laundered appearance** – Fabric retains its like-new look and maintains permanent pressed appearance better than other protective fabrics.
- **Excellent value** – Long life cycle and competitive price means lowest cost.



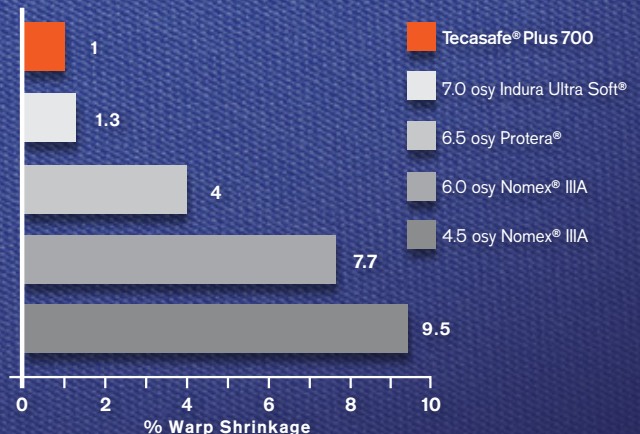
## TABER ABRASION TEST RESULTS

|            | TECASAFE® PLUS 700 | INDURA® ULTRA SOFT® | PROTERA® | NOMEX® IIIA |
|------------|--------------------|---------------------|----------|-------------|
| 150 CYCLES |                    |                     |          |             |
| 250 CYCLES |                    |                     |          |             |



## RESISTANCE TO THERMAL SHRINKAGE

NFPA 2112 TPP Thermal Shrinkage Test







# Tecasafe® plus

## PHYSICAL PROPERTIES

|                                                                       |                                                    | Tecasafe® Plus 580                 | Tecasafe® Plus 580-A               | Tecasafe® Plus 700                 | Tecasafe® Plus 700-A               | Tecasafe® Plus 850-A               | NFPA 70E Requirement |         | NFPA 2112 Requirement |
|-----------------------------------------------------------------------|----------------------------------------------------|------------------------------------|------------------------------------|------------------------------------|------------------------------------|------------------------------------|----------------------|---------|-----------------------|
|                                                                       |                                                    |                                    |                                    |                                    |                                    |                                    | HRC 1                | HRC 2   |                       |
| <b>FABRIC WEIGHT</b> (±5%)                                            | oz /yd <sup>2</sup><br>g/m <sup>2</sup>            | 5.8<br>197                         | 5.8<br>197                         | 7.0<br>238                         | 7.0<br>238                         | 8.5<br>288                         |                      |         |                       |
| <b>FIBER BLEND</b>                                                    |                                                    | fr-modacrylic<br>lyocell<br>aramid | fr-modacrylic<br>lyocell<br>aramid | fr-modacrylic<br>lyocell<br>aramid | fr-modacrylic<br>lyocell<br>aramid | fr-modacrylic<br>lyocell<br>aramid |                      |         |                       |
| <b>STANDARD COLORS</b> (other colors available upon request)          |                                                    | ● ● ●                              | ●                                  | ● ● ● ● ●                          | ●                                  | ●                                  |                      |         |                       |
| <b>ARC THERMAL PERFORMANCE VALUE (ATPV)</b><br>(cal/cm <sup>2</sup> ) | <b>ASTM F 1959</b>                                 | 6.5                                | 5.7                                | 9.0                                | 10.1                               | 10.2                               | 5.0 min              | 8.0 min |                       |
| <b>FLAME RESISTANCE</b>                                               | <b>ASTM D 6413</b>                                 |                                    |                                    |                                    |                                    |                                    |                      |         |                       |
|                                                                       | Char Length (inches [warp x fill])                 | < 4.0                              | < 4.0                              | < 4.0                              | < 4.0                              | < 4.0                              | 6.0 max              | 6.0 max | 4.0 max               |
|                                                                       | After Flame (seconds [warp x fill])                | < 2.0                              | < 2.0                              | < 2.0                              | < 2.0                              | < 2.0                              |                      |         | 2.0 max               |
| <b>THERMAL PROTECTIVE PERFORMANCE</b> (cal/cm <sup>2</sup> )          |                                                    |                                    |                                    |                                    |                                    |                                    |                      |         |                       |
|                                                                       | With spacer                                        | 9.6                                | 9.8                                | 12.3                               | 10.0                               | 10.0                               |                      |         | 6.0 min               |
|                                                                       | Without spacer                                     | 6.6                                | 6.5                                | 10.9                               | 7.5                                | 8.0                                |                      |         | 3.0 min               |
| <b>FLASH FIRE EXPOSURE</b> (Manikin Test)                             | <b>ASTM F 1930</b>                                 |                                    |                                    |                                    |                                    |                                    |                      |         |                       |
|                                                                       | (% body burn [2 cal/cm <sup>2</sup> /sec] @ 3 sec) | 23                                 | 32                                 | 15                                 | 23.5                               | 19                                 |                      |         | 50.0 max              |
| <b>TENSILE STRENGTH</b> (lbs [warp x fill])                           | <b>ASTM D 5034</b>                                 | 114 x 85                           | 105 x 80                           | 135 x 85                           | 135 x 85                           | 145 x 90                           |                      |         |                       |
| <b>ELMENDORF TEAR STRENGTH</b> (lbs [warp x fill])                    | <b>ASTM D 1424</b>                                 | 11 x 10                            | 11 x 10                            | 10 x 8                             | 12 x 10                            | 12 x 10                            |                      |         |                       |
| <b>DIMENSIONAL STABILITY</b> (% [5x]) 120°F                           | <b>AATCC 135</b>                                   | ≤ 3.0                              | ≤ 3.0                              | ≤ 3.0                              | ≤ 3.0                              | ≤ 3.0                              |                      |         |                       |
| <b>WICKING</b>                                                        |                                                    |                                    |                                    |                                    |                                    |                                    |                      |         |                       |
|                                                                       | 1" strip, tap water (seconds)                      | 0.5 inches                         | 0.5 inches                         | 0.5 inches                         | 0.5 inches                         | 0.5 inches                         |                      |         |                       |
|                                                                       |                                                    | 3.5                                | 3.5                                | 3.5                                | 3.5                                | 3.5                                |                      |         |                       |
|                                                                       |                                                    | 1.0 inches                         | 1.0 inches                         | 1.0 inches                         | 1.0 inches                         | 1.0 inches                         |                      |         |                       |
|                                                                       |                                                    | 13.0                               | 11.5                               | 13.0                               | 13.0                               | 11.0                               |                      |         |                       |
|                                                                       |                                                    | 1.5 inches                         | 1.5 inches                         | 1.5 inches                         | 1.5 inches                         | 1.5 inches                         |                      |         |                       |
|                                                                       |                                                    | 29.0                               | 28.0                               | 29.0                               | 29.0                               | 29.0                               |                      |         |                       |
|                                                                       |                                                    | 2.0 inches                         | 2.0 inches                         | 2.0 inches                         | 2.0 inches                         | 2.0 inches                         |                      |         |                       |
|                                                                       |                                                    | 61.0                               | 53.0                               | 61.0                               | 61.0                               | 51.0                               |                      |         |                       |
| <b>PILLING RESISTANCE</b> (%)                                         | <b>ASTM D 3512</b>                                 |                                    |                                    |                                    |                                    |                                    |                      |         |                       |
|                                                                       | 30–120 minutes                                     | *5                                 | *5                                 | *5                                 | *4–5                               | *4–5                               |                      |         |                       |
| <b>THERMAL SHRINKAGE RESISTANCE</b>                                   |                                                    |                                    |                                    |                                    |                                    |                                    |                      |         |                       |
|                                                                       | (% [500°F, 5 minutes])                             | ≤ 3.0                              | 3.0                                | ≤ 3.0                              | < 4.0                              | < 3.0                              |                      |         | 10.0 max              |

1. Tecasafe plus Orange meets Canadian high-visibility safety standard CSA Z96-2009.
2. Tecasafe plus Hi-Vis Yellow meets high-visibility safety standards ANSI 107 and CSA Z96-2009.

Ratings: \*5—Best, \*3—Acceptable, \*1—Poor

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Finishing and Non-woven are ISO-9001 Certified Facilities.

All listed test data and ranges represent typical values. All test data and ranges are the result of multiple tests unless otherwise stated. To the best of our knowledge, the information contained herein is accurate. However, TenCate Protective Fabrics assumes no liability whatsoever for the accuracy or completeness of the information contained herein. Users of any substance must satisfy themselves by independent investigation that the material can be used safely. We have described certain hazards, but we cannot guarantee that these are the only hazards.

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