



ACEGrid® Specification

ACEGrid® is woven from high-tenacity, multifilament polyester yarns and coated with polymer which can provide best resistance of UV and durability. High-strength, high modulus, low creep behavior all are the advantages of ACEGrid®. ACEGrid® is predominantly used in Mechanically Stabilized Earth (MSE) and Reinforced Soil Slope (RSS) structures.

Product Properties

| Physical Properties | Units | GG20-II | GG30-I | GG40-I | GG60-I | GG80-I | GG100-I | GG150-I | GG200-I | Test Method |
|--------------------------|-------|--|--------|--------|--------|--------|---------|---------|---------|-------------|
| Material | | High Tenacity Polyester Yarn Coated With Polymeric | | | | | | | | |
| Aperture Size - MD ± 20% | in | 1.1 | 1 | 1 | 0.9 | 0.9 | 0.8 | 0.8 | 0.7 | |
| Aperture Size - CD ± 20% | in | 1.1 | 1.1 | 1.1 | 1.1 | 1.1 | 1.1 | 1.1 | 1.1 | |

PET Yarns Properties

| | | | | | | | | | | |
|-------------------------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|
| Carboxyl End Group(CEG) | mmol/kg | < 30 | < 30 | < 30 | < 30 | < 30 | < 30 | < 30 | < 30 | GRI GG7 |
| Molecular Weight | Mn | > 25000 | > 25000 | > 25000 | > 25000 | > 25000 | > 25000 | > 25000 | > 25000 | GRI GG8 |

Mechanical Index Properties

| | | | | | | | | | | |
|--|-------|-------|--------|--------|--------|--------|--------|--------|--------|------------|
| Tensile Strength , T _{ult} - MD min | lb/ft | 1369 | 2053 | 2737 | 4106 | 5475 | 6844 | 10266 | 13687 | ASTM D6637 |
| Tensile Strength , T _{ult} - CD min | lb/ft | 1369 | 2053 | 2053 | 2053 | 2053 | 2053 | 2053 | 2053 | ASTM D6637 |
| Elongation - MD | % | 10 | 10 | 10 | 10 | 10 | 10 | 10 | 10 | ASTM D6637 |
| Tensile Strength at 2% Strain- MD min | lb/ft | ≥ 342 | ≥ 548 | ≥ 684 | ≥ 1027 | ≥ 1369 | ≥ 1711 | ≥ 2601 | ≥ 3422 | ASTM D6637 |
| Tensile Strength at 5% Strain- MD min | lb/ft | ≥ 684 | ≥ 1027 | ≥ 1369 | ≥ 2053 | ≥ 2738 | ≥ 3422 | ≥ 5133 | ≥ 6844 | ASTM D6637 |

Long-Term Design Properties

| | | | | | | | | | | |
|--|----------|------|------|------|------|------|------|------|------|------------|
| Creep Reduction Factor, RF _{CR} | (120yrs) | 1.43 | 1.43 | 1.43 | 1.43 | 1.43 | 1.43 | 1.43 | 1.43 | ASTM D5262 |
| Installation Damage Reduction Factor, RF _{ID} | | 1.03 | 1.03 | 1.03 | 1.03 | 1.03 | 1.03 | 1.03 | 1.03 | ASTM D5818 |
| Durability Reduction Factor, RF _D | | 1.15 | 1.15 | 1.15 | 1.15 | 1.15 | 1.15 | 1.15 | 1.15 | |
| Reduction Factor, RF=RF _{CR} XRF _{ID} XRF _D | | 1.69 | 1.69 | 1.69 | 1.69 | 1.69 | 1.69 | 1.69 | 1.69 | |
| Long Term Design Strength, T _{dl} | lb/ft | 810 | 1215 | 1620 | 2430 | 3240 | 4050 | 6075 | 8099 | |

Dimensional Characteristics

| | | | | | | | | | | |
|--|-----------------|------------|------------|------------|------------|------------|------------|------------|------------|--|
| Length | yd | 54.7/109.4 | 54.7/109.4 | 54.7/109.4 | 54.7/109.4 | 54.7/109.4 | 54.7/109.4 | 54.7/109.4 | 54.7/109.4 | |
| Width | yd | 4.4 | 4.4 | 4.4 | 4.4 | 4.4 | 4.4 | 4.4 | 4.4 | |
| Area | yd ² | 239/479 | 239/479 | 239/479 | 239/479 | 239/479 | 239/479 | 239/479 | 239/479 | |
| 20' container capacity - approx. | yd ² | 28,724 | 23,937 | 21,782 | 22,261 | 18,671 | 16,516 | 14,841 | 11,011 | |
| 40' container capacity - approx. | yd ² | 57,448 | 47,873 | 43,565 | 44,522 | 37,341 | 33,033 | 29,682 | 22,022 | |
| 40HQ container - approx. | yd ² | 62,235 | 52,661 | 47,873 | 48,831 | 44,044 | 37,341 | 33,511 | 25,852 | |
| 40' container with 3.9 width - approx. | yd ² | 84,018 | 70,015 | 63,714 | 65,114 | 54,612 | 48,310 | 43,409 | 32,207 | |
| 40'HQ container with 3.9 width - approx. | yd ² | 91,019 | 77,016 | 70,015 | 71,415 | 64,414 | 54,612 | 49,010 | 37,808 | |

Notes:

- The values given are indicative and correspond to MARV obtained in ACE laboratory. The right is reserved to make changes without notice.
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