

# SMARTFence 36

## HIGH-TENSILE/HIGH-MODULUS WOVEN GEOTEXTILE SEDIMENT FENCE

**SMARTFence 36** is a heavy duty high-tensile/high-modulus woven geotextile sediment fence. It is designed to replace up to 12 gauge welded or woven wire and 12.5 gauge chain link backed silt fence. It is also designed to replace proprietary silt fences with attached reinforcing elements.

**SMARTFence 36** is specifically designed and fabricated to resist structural failure due to high tensile stresses, excessive material elongation, material deflection, ripping, sagging, and overturning as hydrostatic and hydrodynamic forces associated with excessive backwater depths move against the fence.

**SMARTFence 36** is a value engineering approach, providing a strong siltation fence equivalent in strength and stiffness to that of metal backed sediment fences for less cost, significantly lower carbon emissions during manufacturing and less waste produced at the end of the service life.

Table 1 is a comparison between the structural properties of 14 gauge welded and 12.5 gauge chain link metal fence versus the same structural properties of **SMARTFence 36**

Table 2 is the MARV for **SMARTFence 36**

Table 3 is a comparison of the Factors Of Safety between 14 gauge welded wire and 12.5 gauge metal chain link supported silt fence and **SMARTFence 36**

TABLE 1			
PROPERTY	<b>SMARTFence 36</b>	<b>12.5 - GAUGE WIRE FENCE (2-3/8" mesh)</b>	<b>14- GAUGE WIRE FENCE (2" x 4" mesh)</b>
Breaking Tensile Strength (lb./ft.)	<b>3,900 (MARV)</b>	1,930 (Average)	710 (Average)
*Modulus of Elasticity (lb./ft.)	<b>&gt;27,000 MD</b>	9,422 **MD	2,600 MD

\*Modulus of Elasticity = measure of stiffness = Tensile force / strain

\*\* MD = Machine Direction

"MARV" = Minimum Avg. Roll Value = Measured Value - 2 x Std. Deviation

"Average" = Average values shown for chain-link backing.

TABLE 2: MARV

SMARTfence® 36	
<u>Test Method</u>	<u>Minimum Average Roll Values (MARV)</u>
Wide Width Tensile Strength (ASTM D 4595)	3,900 lbs./ft.-MD x 1,700 lbs./ft. -TD
Wide Width Test Elongation (ASTM D 4595)	14% - MD x 10% - TD
Grab Tensile Strength (ASTM D 4632)	450 lbs. MD x 200 TD
Trapezoidal Tear (ASTM D4533)	175 lbs. -MD x 70 lbs. -TD
CBR Puncture (ASTM D6241)	1400 lbs.
Apparent Opening Size (ASTM D 4751)	Sieve No. 70 (MaxARV)
Water Flux (ASTM D 4491)	25 gpm/ft. <sup>2</sup>
UV Stability (ASTM D 4355)	>90% Strength Retained

MD = Machine Direction; TD=Transverse Direction; SMARTfence is a Woven Geotextile and is 100% American Made

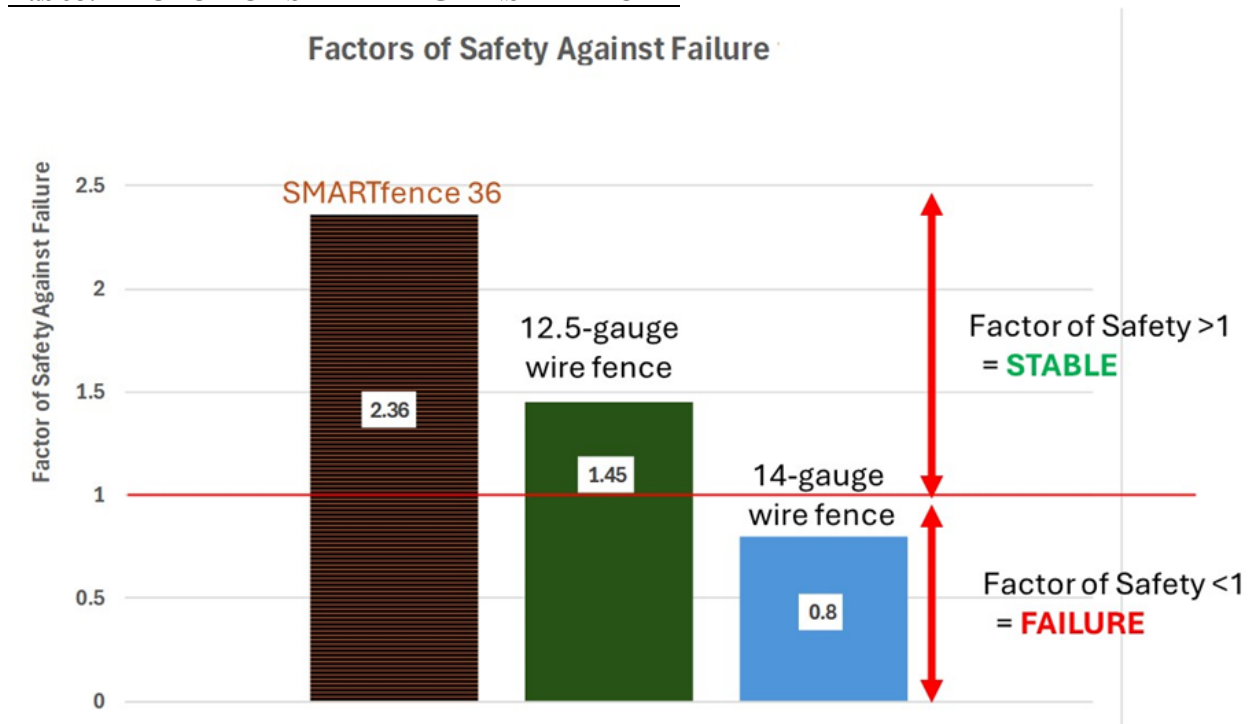
**FILTER EFFICIENCY PER ASTM D 5141 TESTING =**

**97.9%**

**\*SMARTFence 36 is 100% American made**

**\*SMARTFence 36 complies with the requirements of ASTM D6461**

**Table 3: FACTOR OF SAFETY AGAINST FAILURE**



1. Assumes 6 ft. post spacing and backwater to top of fence just before overtopping (26 inches depth)
2. Factors of safety calculated relative to required tensile strength for stability
3. Calculations based on Bell and Hicks (1984).

*Reference: Bell, J.R. and R.C. Hicks, 1984, "Evaluation of Test Methods and Use Criteria for Geotechnical Fabrics in Highway Applications," Final Report, FHWA, Contract No. DOT-FH-119353. Oregon State University, Corvallis, Oregon.*

**WHAT SILT FENCE ARE YOU USING?**

**DO YOU KNOW IF YOUR SILT FENCE WILL FAIL?**