

TPO



Heat-welded thermoplastic roofing membranes are the fastest growing segment of the low-slope roofing market and GenFlex TPO is an excellent system choice. GenFlex TPO roofing systems are designed for durability and to withstand extreme environmental exposure. They can provide the right solution to your project regardless of configuration, usage, slope, height, location or wind exposure.

Thousands of roofs have been installed with GenFlex TPO membrane and protect valuable properties including commercial buildings, retail facilities, hospitals and numerous schools and institutions.

GenFlex TPO Membrane, a high quality thermoplastic polyolefin, offers the "best of both worlds" ... the proven weathering resistance of rubber (derived from its high ethylene propylene rubber content) and the performance of hot-air welded seams.

GenFlex TPO is manufactured at our state-of-the-art facility in Muscle Shoals, Alabama where we have produced the industry's first 12 ft. wide sheet meeting industry code requirements. All GenFlex TPO membranes are produced with a nominal top ply film thickness of .15 mils, thicker than other TPOs. This nominal .15 mil top ply results in a relatively smooth finished surface that resists the accumulation of dirt, wind blown debris and biological growth.



GenFlex TPO membranes also feature a higher polymer content as compared to other single-ply membranes in addition to our long-term performing and environmentally friendly non-halogenated compounds.

GenFlex TPO rolls are 1.9m (75"), 2.4m (8'), 3.0m (10') and 3.6m (12') wide by 30.5m (100') long and available in white, grey and charcoal black. Nominal thickness is 1.1mm (45 mil) and 1.5mm (60 mil).



A [Cool Roof](#) of GenFlex white TPO can reduce energy consumption and reduce problems associated with urban heat islands, including heat buildup, smog and air pollution. Cool Roof systems deliver high solar reflectivity (65 or higher) and high emissivity (80% or higher) while reducing electrical demand and improving building comfort. Less cooling system wear and tear also means reduced maintenance expenses.



GenFlex Roofing Systems is a partner in the EPA Energy Star Program and a strong supporter of white reflective roofing and the related energy benefits.

Heat welded seams have long been recognized as the strongest, most reliable seaming method in the single-ply industry. Hot-air welded seams physically fuse together the top and bottom sheets, resulting in a single monolithic sheet instead of multiple layers of membrane and tape. The seam is actually stronger than the membrane itself.

GenFlex TPO heat welded seams can have:

- a seam strength 3-4 times greater vs glued or taped seams
- 40 - 50% less seaming time vs glued or taped seams
- less expense than glued or taped seams with less labor to install the system

Until recently, a single heat-weld was the only option. Strong, yes, but a single-weld results in a seam that is, by its very nature, uneven in its strength. Fasteners below the seam can pull the seam apart or tear the membrane during a wind uplift situation due to the unequal pressure that occurs.

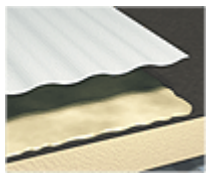
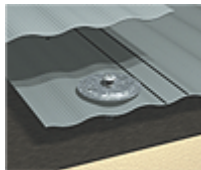


GenFlex [patented dual-weld technology](#) beats wind fatigue by balancing the load and stress around the fasteners and along the seams. Instead of putting a load stress on the fastener and seam, the dual weld system directly transfers the load to the in-seam fastening system reducing seam failure and membrane tears.

GenFlex TPO membrane is installed either ballasted, mechanically attached or fully adhered. It is suitable for both new construction and re-roofing. Seams are hot air welded .. the fastest and most reliable seaming method. The sheets are preprinted to assure proper overlap.

Mechanically attached

Effective system in high wind situations, providing a roof of exceptional strength and integrity. Mechanical attachment provides durability and longevity even under high wind uplift conditions.

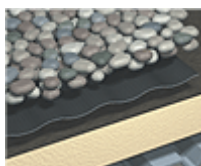


Fully adhered

A system often used for installations with unusual or odd-shaped contours. Fully adhered systems install with a continuous, even surface, have no mechanical penetration of the membrane and add minimal weight to the deck.

Ballasted

Used on substrates capable of supporting the dead load of this system, the Ballasted system is preferred for installations where speed and economy are prime considerations. Insulation, as



well as the membrane, may be loose laid with the membrane fastened only at the perimeter.

GenFlex TPO Test Data

Property	Test Method	Physical Properties
Color (Face)		White, CharCool Black or Grey
Weight	ASTM D-751	45 mil–1.03 kg/m ² (0.21 lb/ft ²) 60 mil–1.41 kg/m ² (0.29 lb/ft ²)
Thickness, Nominal	ASTM D-571	1.1 mm (0.045"), 1.5 mm (0.060")
Thickness Over Scrim mm, (in)	ASTM D-4637 Optical Method	0.381 mm (0.015"), Min. 0.381 mm (0.015"), Typical
Breaking Strength, Min.	ASTM D-751	1 kN (225 lbf.), Min. 1.5 kN (330 lbf.), Typical
Elongation, Ultimate, (unreinforced)	ASTM D-751	500%
Tearing Strength, Min.	ASTM D-751	245 N (55 lbf.), Min. 694 N (156 lbf.), Typical
Properties after Heat Aging		
Breaking Strength	ASTM D-751 per	1.0 kN (225 lbf.), Min.
Tearing Strength	ASTM D-573	1.5 kN (330 lbf.), Typical 245 N (55 lbf.), Min. 694 N (156 lbf.), Typical
Brittleness Point, Max.	ASTM D-2137	-45°C (-49°F)
Ozone Resistance, No Cracks	ASTM D-1149	Pass
Water Absorption, Max.	ASTM D-471	±2%
Linear Dimensional Change, Max.	ASTM D-1204	±2%
Weather Resistance No Cracks or Crazing	ASTM G-151 ASTM G-153 ASTM G-154	Pass
Properties after Weathering		
Breaking Strength, Min.	ASTM D-751	1.0 kN (255 lbf.)
Reflectivity	ASTM E-903	White – 78.3 Grey – 44.6 CharCool Black – 6.2
Puncture Resistance	FTM 101 C Method 2031	200 lbf (840 N) Min. 337 lbf (1.5 kN) Typical
Water Vapor Permeance	ASTM E-96	.0122 Perms