



STRENGTH & ELASTICITY IN VINYL DECK MEMBRANES



SUNDECKS | ROOF DECKS | BALCONIES | PATIOS | STAIRS | POOL DECKS | WALKWAYS

What's an Oreo cookie without the cream? A computer without electricity? A car without gasoline? When it comes to vinyl membranes, strength is only one half of the equation. **Vinyl membranes need elasticity to expand and contract with seasonal temperature changes and move with the substrate.** Duradek has the highest elasticity so it is the best suited for use on pedestrian roofs and decks.



Watch Duradek's John Ogilvie explain the importance of both [Strength and Elasticity](#) when it comes to vinyl membranes.



Watch Duradek of Utah use the power of a Ford 250 to put the [strength of Duradek's heat welded seams to the test.](#)

Is Strength or Elongation More Important When It Comes to Vinyl Membranes?

For membranes used for pedestrian traffic systems, the importance of strength and elongation are both essential for quality and function, and both criteria are important for the product to meet building code requirements.

Higher Tensile (Breaking) Strength is more important for mechanically fastened commercial roofing applications so the vinyl doesn't rip at the fastener points. Pedestrian roof deck applications are fully adhered, not mechanically fastened, therefore do not need extra high tensile strength; but they do need to move with the substrate, building structure, and extreme temperature changes, so should have high elasticity.

Not All Vinyl Is Created Equal

All vinyl decking membranes are installed virtually the same way, so in theory, the requirements should be the same.

	Lap Joint Breaking Strength (kN/m)	Elongation at Complete Separation (%)
Duradek Ultra 60mil - 3/4" seam - Woven Back	36.4	222%
Brand DT 60mil - 3/4" seam - Vinyl Back	28.2	173%
Brand TD 60mil - 3/4" seam - Vinyl Back	57.1	84%
CAN/CGSB Testing Minimum Requirement	26.25 kN/m	15%

Some competitor products forfeit one quality for the other (Brand DT barely passing required breaking strength, and Brand TD with very little elasticity), which is not ideal for membranes used for pedestrian traffic applications. What is best for vinyl decking is a solid mix of strength AND flexibility, not one or the other. Duradek exceeds required Breaking Strength by 40% and has exceptional elasticity to move with the substrate at nearly 15-times the required standard.

Duradek vinyl membranes have both reasonable breaking strength AND exceptional elongation to allow movement with the substrate.

