Average Properties of the Materials of Construction

Mechanical Properties:

Polyethylene (Shell Material)	Test Method	Properties
1. Tensile Strength (@ 20m./min.)	ASTM D 638	2600-3000
2. Stiffness Modulus	ASTM D 747	56-70 X 10_3 psi
3. Tensile Impact Strength	ASTM D 1822	90-130 ft. lb. /$in.^2$
4. Elongation (@ 20in./min.)	ASTM D 638	150-350%
5. Vicat Softening Point	ASTM D 1525	230°/238°F
6. Deflection Temperature at 66psi	ASTM D 648	172°F
7. Brittleness Temperature	ASTM D 746	-94°F
PVC (Wet Decking & Eliminator Material)	**Test Method**	**Properties**
1. Tensile Strength	ASTM D 638	7100 psi
2. Flexural Modulus	ASTM D 790	300-500 x 10_3 psi
3. Izod Impact	ASTM D 256	0.73 ft. lb/in.
4. Elongation	ASTM D 638	150%
5. Deflection Temperature at 66psi	ASTM D 648	155°F
6. Brittleness Temperature	ASTM D 746	-15°F
PVC (Water Distribution System Material)	**Test Method**	**Properties**
1. Tensile Strength	ASTM D 638	7500 psi
2. Flexural Modulus	ASTM D 790	560 x 10_3 psi
3. Izod Impact 140°F	ASTM D 256	1.26 ft. lb/in. notch
4. Izod Impact at –40°F	ASTM D 256	.035 ft. lb/in. notch
5. Deflection Temperature at 66psi	ASTM D 648	169°F

Permanence Tests:

	Test Method	Polyethylene	PVC
1. Outdoor Weathering	ASTM D 1435-65T	Complete Protection	Excellent
2. Accelerated Weathering	ASTM E 42	Very Resistant	Very Resistant
3. Normal Exposure to Sunlight		Complete Protection	Complete Protection
4. Accelerated Exposure to Sunlight	FADEOMETER	Complete Protection	Complete Protection

Chemical Properties:

	Test Method	Polyethylene	PVC
1. Weak Acids	ASTM D 543	Very Resistant	No Effect
2. Strong Acids	ASTM D 543	None to Slight	None to Slight
3. Weak Alkali	ASTM D 543	Very Resistant	No Effect
4. Strong Alkali	ASTM D 543	Very Resistant	No Effect
5. Salts	ASTM D 543	Resistant	No Effect
6. Sea Salts	ASTM D 543	Resistant	No Effect

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