



» TECHNICAL BULLETIN

VERSAFLEX™ CE NON-BLOOMING SOLUTIONS TPEs For Optimal Aesthetics On Consumer Electronics

Consumer electronics need to dazzle customers with both appearance and function. For brand owners and OEMs to achieve this, they need materials free of surface blooms and ready to stand up to everyday wear and tear.

In the past, excellent aesthetics often meant compromising processing properties or performance attributes, like slow demolding speed, abrasion or stain resistance. Root causes of these problems may have included improper injection molding conditions or the incompatibility of TPE and vulcanized silicone materials with desirable additives.

Avient's Versaflex™ CE non-blooming TPEs are specifically formulated to overcome the challenge of surface blooms when overmolding consumer electronics. These new materials integrate excellent aesthetics and functionality, including UV and stain resistance, without sacrificing mechanical properties. These engineered TPEs also have the added benefit of eliminating secondary processing, which reduces energy use and supports manufacturers in reaching their sustainability goals.



KEY PROPERTIES AND OVERMOLD PERFORMANCE

PROPERTY	TEST METHOD	UNITS	VERSAFLEX™ CE 3130-80N	VERSAFLEX™ CE 3130-70N
Shore Hardness	ASTM D2240	Shore A	79	69
Specific Gravity	ASTM D792	g/cm ³	1.08	1.04
Tensile Strength	ASTM D412	psi	2,484	2,222
Melting Flow Index (190°C, 21.6kg)	ASTM D1238	g/10min	5.2	4.4
Elongation	ASTM D412	%	864	667
Flexural Modulus @ 300%	ASTM D790	psi	975	855
Viscosity @ 11,170 sec, 200°C	ASTM D3835	Pa.s	30.6	22.2
Abrasion (Mass Lost)	ASTM D3389	mg	1.1	2.6
UV Resistance	0.68W/m ² 45°C 168hours	—	Good	Good
Stain Resistance	*Condition 1 *Condition 2	—	Excellent	Excellent
Blooming	85% RH 30°C,168 hours	—	Non	Non
Processing (Demold)	—	—	Excellent	Good
Cycle Time	—	—	Short	Middle
Overmold Substrate	—	—	PC/ABS	PC/ABS

TEST METHODS

Stain Test - Condition 1: Tea, coffee, ketchup, mustard stand on the surface for 2 minutes at room temperature, then removed to observe the surface performance. **Condition 2:** Sunblock and hand cream stand on the surface for 24 hours at 50°C, then removed to observe the surface performance.

UV Resistance Test - 0.68W/m² @ 45°C expose 168 hours

Anti-abrasion Test - H18 wheel load 1kg @ 500 cycles

Surface/Non-blooming - Visual observation

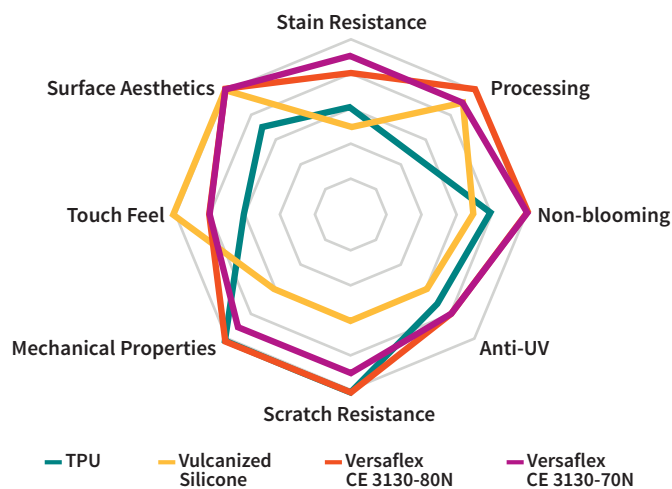
Touch Feel - Hand touch

Mechanical Properties - Refer to hardness, gravity, tensile strength, elongation, MFI, and flexural modulus, which are tested using ASTM methods

Processing - Demold speed & cycle time

TEST RESULTS

Comprehensively, the Versaflex CE 3130 non-blooming series performed better than competitive materials in balancing functional properties and processing.



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