Kalcor University
Soft Touch Coatings
Or, look but please don't touch

Soft touch coatings are the prototypical engineered coating. They need to not only have a certain look and performance, but a certain feel. From grippy-rubbery to velvety-soft their properties are easy to imagine but hard to quantify. They are a bit of science blended with a measure of art.

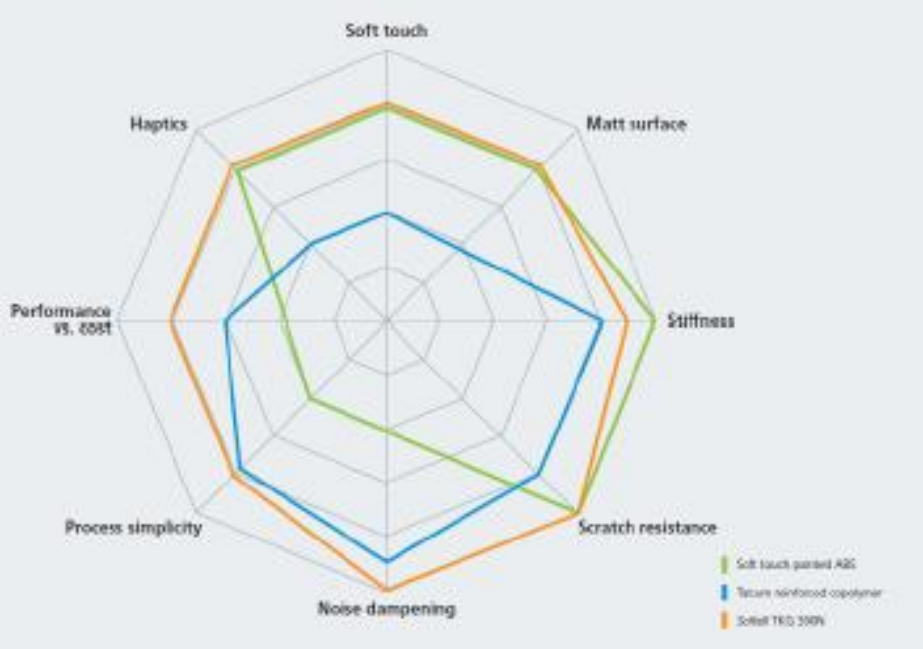
Soft feel applications which began primarily with automotive interiors have swelled into a market for consumer electronics, cosmetics packaging, medical devices to all sorts of products like vacuum cleaner handles that seek to provide users with a coating that both looks good and feels right.

The tactile sensation comes chiefly from the plasticity of the paint resins which must polymerize into a more elastic film than most resins. Common to the industry are waterborne polyurethane based materials.

The automotive industry has been a major proponent of soft-touch coatings. Soft-touch coatings offer several desirable benefits – they exhibit low gloss levels and consequently low reflectivity, are very resistant to abrasion and scratching, and are available in a number of rich colors and pleasing effects. You will find soft touch coatings on consoles, steering wheels, arm rests and door trim among other interior trim components, providing aesthetic and haptic qualities.

A recent breakthrough in soft-touch coatings is improved resistance to suntan lotion and DEET. Automotive OEMs have demanding requirements and test standards regarding chemical resistance, hydrolytic stability, yellowing and resistance to perspiration and grease staining. Until recently the tradeoff was that coatings which could pass the chemical resistance tests did not feel soft enough.

Research had also shown that hand creams and sun tan lotions at elevated temperatures could soften the coating and migrate into the plastic, causing adhesion loss at the coating to plastic interface. Kalcor's new Soft touch Plus formulations pass the test, providing a viable option for automotive OEMs.



Waterborne soft-touch coatings are typically achieved by combining flexible polyurethane dispersions of high molecular weight with flexible hydroxyl-functional pre-polymers and crosslinking them with flexible, water-dispersible poly-isocyanates. The two component urethane technology enables customers to get the optimum combination of properties without compromise by providing a coating that feels soft but has excellent durability.

An overview of the advantages of soft-touch surfaces:

- Warm and velvety to grippy feeling
- High abrasion and scratch resistance
- Low gloss, low reflectivity
- A wide variety of shades and color effects possible