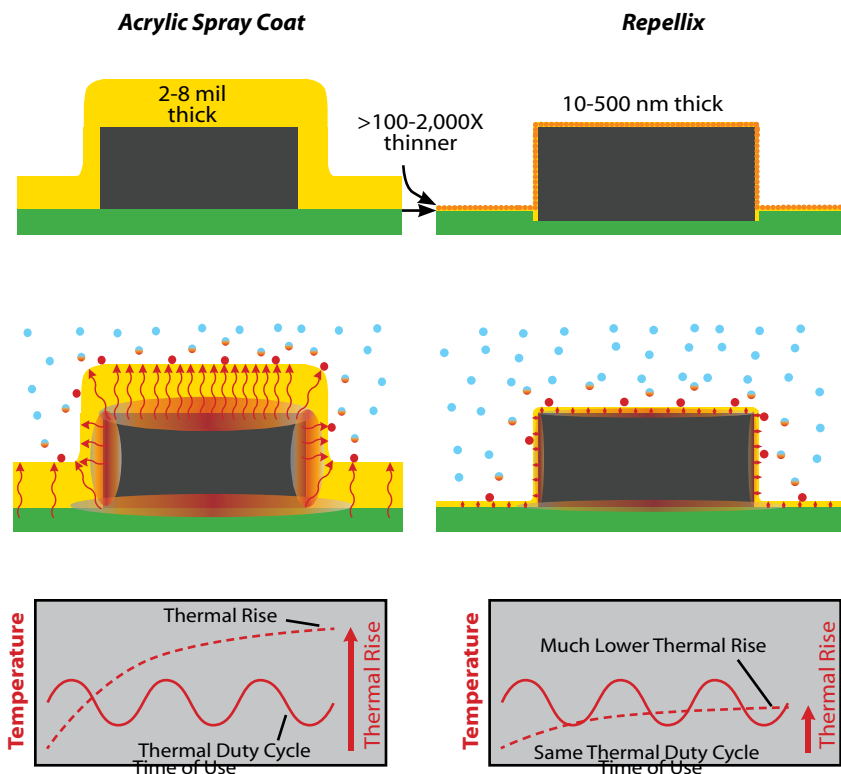




Repellix™ Superhydrophobic Water Protection For Excellent Heat Dissipation

Integrated Surface Technologies™ (IST) provides Repellix™ as a superhydrophobic coating for electronics without the tradeoff of the heat entrapment associated with conformal spray coatings. How? Simply put, Repellix is very thin, usually thousands of times thinner than conformal coatings. It is also semi-porous, allowing molecular gas cooling by the air, while at the same time preventing droplets from contacting the surface.

Comparison Between Traditional Spray Coatings and Repellix Ceramic Supermolecular Coating



Supermolecular Coatings Reduce Heat Build-Up

Encapsulating coatings such as acrylics, urethanes, and silicones are poor conductors of heat. Since the PCBs on mobile devices are tightly packed, they produce a relatively large heat load. The primary heat transfer mechanism is air colliding between the IC component and the device casing. A thick encapsulation coating prevents this transfer and creates a longer thermal path for the heat to travel along. In contrast, Repellix coatings minimize this increase of the thermal path to effectively zero.

Heat build-up is proportional to the thickness of the layer it must pass through

For high frequency components, or long duty cycles, this heat encapsulation can produce reliability failures or altered performance as the components heat up.

Repellix is rated to 250°C, and has demonstrated the ability to repel water while heated to 350°C without delamination.