

SURFACE MODIFICATION

AUTOMOTIVE

Plastics and composites are prized for their structural integrity, low weight, and design flexibility they bring to demanding automotive environments.

Inhance Technologies unique Reactive Gas Technology™, provides new, advanced benefits for plastics and composites, helping automotive designers and engineers improve performance, manage cost, and reduce design complexity.

Polyolefins are among the most broadly used plastics in the automotive industry due to their excellent properties and performance. However, these polymers have inherently low surface energies which make physical bonding of paints and/or adhesives very difficult.

Utilizing our Reactive Gas Technology™, the surface energy of polyolefins can be significantly enhanced, resulting in paint bonding and adhesion. With superior and long lasting dyne levels compared to existing technologies, designers and engineers have greater flexibility in creating the interiors and exteriors of tomorrow.

APPLICATIONS

Adhesion Promotion

Interior Decoration and Assembly:

- IP's, door panels, consoles
- Trim, overhead systems
- Structural plastics

Exterior Decoration and Assembly:

- Body panels, fascia, lighting systems
- Windows & door seals

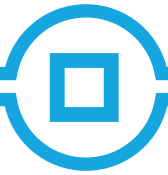
Lubricity & Abrasion Resistance Improvement

- Wiper blades, seals & gaskets
- O'Rings, Moving parts

Fuel & Solvent Barrier

- Fuel tanks, fuel systems
- Coolant tanks





SURFACE MODIFICATION

FEATURES

- Increased surface energy
- Permanent treatment
- Fast treatment times
- Customizable process configurations
- Reduced friction coefficients
- Solvent barrier
- Sustainable

BENEFITS

- Superior surface treatment alternative to existing paint adhesion promotion methods enabling water based paint and adhesive systems in lieu of solvent based systems
- Consistent and uniform surface modification of plastic parts of all sizes and complexity
- Improved overall system performance based on better interactions with treated surfaces
- Lower cycle times than existing technologies
- Extremely long lasting treatment which enables parts to be inventoried for prolonged periods of time
- Better quality resulting in lower warranty claims
- Improved wear life, abrasion resistance, and haptics

SURFACE ENERGY SPECIFICATIONS

The change in surface energy of selected materials as a result of our Reactive Gas Technology™ is shown in the table(s) shown.

COMMODITY PLASTICS	SURFACE ENERGY IN DYNE/CM	
	UNTREATED	TREATED
LDPE	32	54
HDPE	37	54
PET	32	72
PP	29	66
ABS	38	60
EPDM	40	72

ENGINEERING PLASTICS	SURFACE ENERGY IN DYNE/CM	
	UNTREATED	TREATED
TPO	28	56
Nylon	44	60
PU	42	60
PPS	32	60
PBT	30	58
PC	32	56



Assembly and structural bonding – use of water based adhesives and 100% solids coatings technologies



Inhance Technologies solutions can be applied in a number of industries to improve product.