Resodyn ENGINEERED POLYMERIC SYSTEMS

Innovative Coating Technologies™

Product Data Sheet

ResoCoat™ 300

Thermoplastic Blast Mitigation Coating

PHYSICAL PROPERTIES

Bond strength of ResoCoat 300 Coating over ResoSeal 800 and 805 on concrete (ASTM D-4541)	Concrete failure
Bond strength of ResoCoat 300 Coating on Steel (ASTM D-4541)	>435 psi
Finish appearance	Smooth surface with gloss finish
Type	Ready to use Polymer Thermal Spray dry powder <400 micron (40 mesh)
Coatings VOC (g/L)	None
Shelf life	Minimum of one year when stored at 70° F in unopened original sealed container
Thickness	250 to 375 mils
Coverage (per pound)	0.83 ft^2 at 250 mils thickness
Yield Stress	1650 psi
Tensile Strength (ASTM D-638)	1900 psi
Hardness (Shore D) (ASTM D-2240)	50-55
Elongation to Failure @77°F	246%
Tear test (ASTM D-624)	600 lb/in

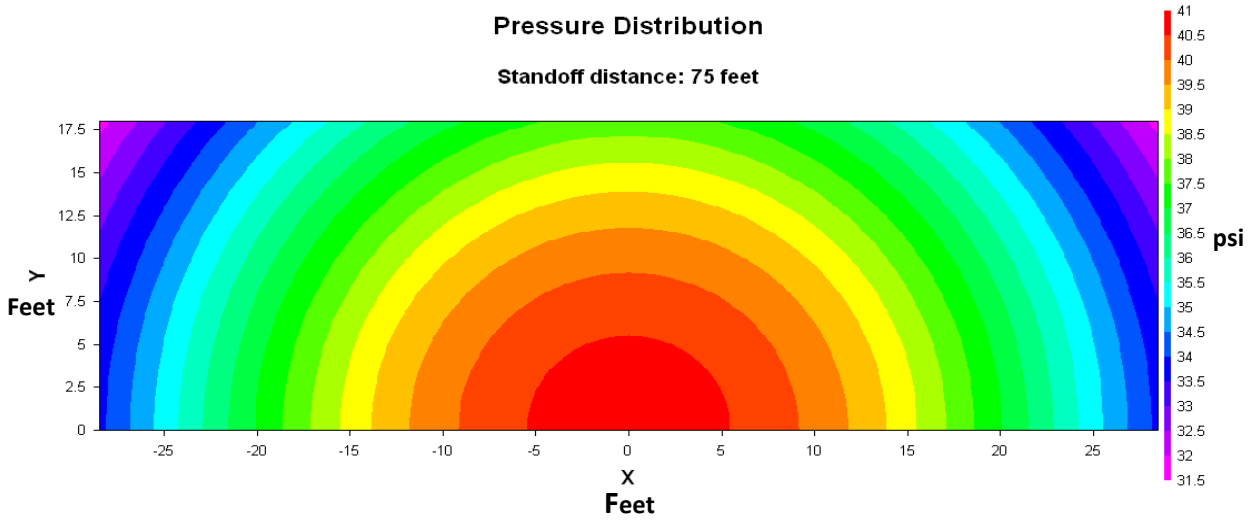
ResoCoat™ 300 is a Polymer Thermal Spray applied, high performance thermoplastic blast mitigation coating. It may be applied to the interior of Concrete or Concrete Masonry Unit (CMU) walls and structures to mitigate the destructive effects of exterior explosive blast pressures and for the prevention of flying wall debris from entering the interior inhabited space of the structure.

ResoCoat™ 300 has also been proven effective when applied to High Strength Steel to increase the blast protection and ballistic projectile capture properties of steel armor. The ResoCoat™ 300 performance increases of coated steel armor have been shown to allow a twenty percent (20%) reduction in steel armor weight while providing equal armoring protection.

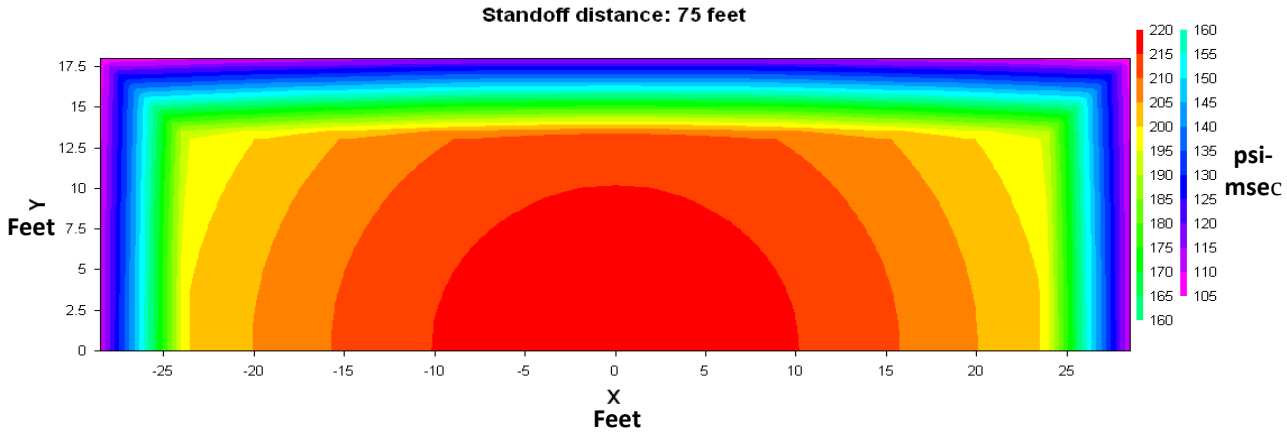
Full-scale blast testing was conducted under simulated military conditions of an IED detonation directed onto the exterior of a civilian structure. ResoCoat™ 300 was applied at a nominal .300" thickness to the interior surfaces of two CMU test walls measuring 12 feet tall by 7.5 feet wide. Through a total wall flexure of over twelve inches, occurring in milliseconds timeframe, ResoCoat™ 300 maintained the basic structural integrity, holding the walls in place with no debris entering the building's interior.

The explosive charge and standoff distance were selected to achieve the desired peak pressure and impulse on the external wall surface.

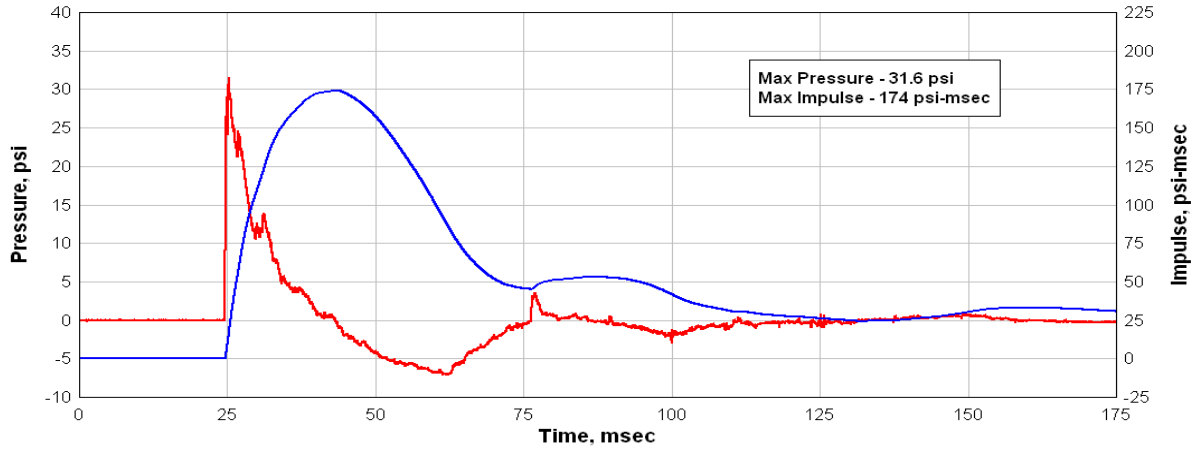
Technical blast data for the full-scale wall test is displayed graphically below.



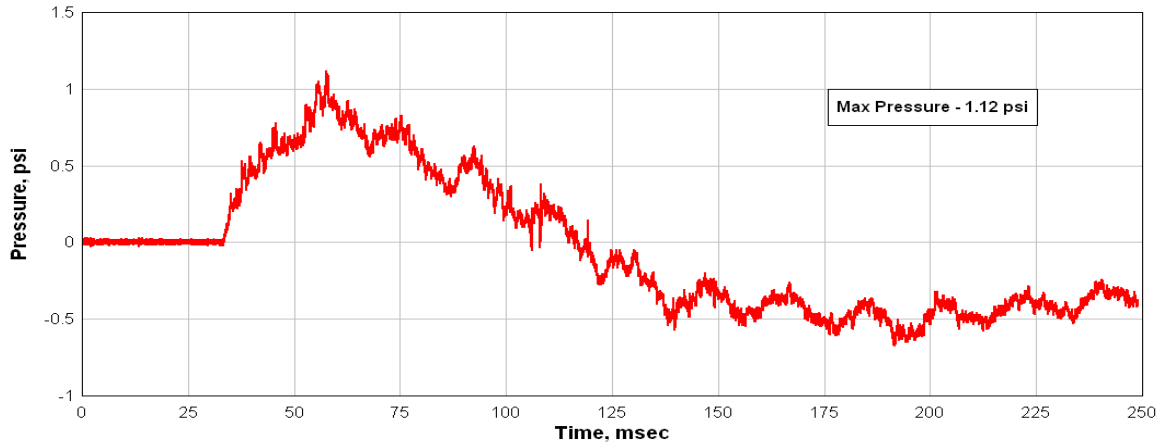
Impulse Distribution



Reflected Pressure



Interior Pressure



The Resodyn family of Polymer Thermal Spray (PTS) coating systems is a powder coating technology exclusively designed and developed for the deposition of polymeric coatings directly from dry powder without the need for oven baking, or curing. The patented and patents pending PTS coating technology can be used to thermally spray thin (< 200 µm) and robust coatings of unlimited thickness. The PTS system can deposit thermoplastic and specially formulated thermosetting polymers, as well as UV curable polymers and syntactic foams on metal, polymer and ceramic based substrates and even heat sensitive substrates such as cardboard, paper, and electronic circuits.