



ECO LINER VERSUS POLYURETHANE/POLYUREA

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Advantages of NanoTech Coatings Eco Liner Over Polyurea & Polyurethane Coatings

Beauty may only be skin deep, but as we all know, skin does not have to be overly thick to protect.

The same goes for industrial coatings. There's a balance. Too thick and they can be unnecessarily expensive without adding additional protection.

Generally, the main difference with the polyurea types and Eco Liner is polyurea ends up often having a minimum application thickness of 40 mils which is twice Eco Liner's and more often than not it can be 60 mm plus.

NanoTech Coatings Eco Liner also has superior adhesion between 98 and 100%. The inferior adhesion of other coatings become evident over time as many application surfaces such as tanks are subject to extreme climate conditions which cause their metal walls to contract and expand.

Eco Liner is ANSI/NSF 61 approved. Few polyurea coatings are NSF-61 (drinking water) certified due to the peculiar urea chemistry. They are also harder to self level and don't flow out smoothly while being sprayed.

Chemical resistance of polyureas and polyurethanes, while good in many basic applications simply cannot match the broad range of exotic chemicals now being encountered, particularly in the fracking industries where coating life can be measured in a few months, or even days or hours in extreme cases.

Polyureas and polyurethane coatings have significantly inferior fire protective qualities. On heating, Eco Liner gives off fire-suppressing water vapor and carbon dioxide which is a contributing factor to far longer fire suppression. Polyurethanes however, in decomposition from fire can be explosive and produce mainly poisonous carbon monoxide, trace nitrogen oxides and deadly hydrogen cyanide gases. Even when containing fire retardants, the fiercely toxic gases are still emitted.

Another practical consideration is repair work. It is often advised not to try to patch over polyurethane with it being better to remove and replace the entire coating. Due to coating thickness of polyurethanes removal can be very difficult with extra heavy duty sand blasting material being required. Eco Liner bonds completely to the original coating at the molecular level.

The polyureas have too much flexibility (toward 200% elongation versus Eco Liner's 20 to 100%). Too much elasticity seems to correlate with increased tendency to form large blisters that inevitably leave the container or pipe surface to be more vulnerable.

Eco Liner stands out from the polyurethanes and polyurea coatings by having the considerable advantages of being non-toxic, biologically inert and highly fire retardant without the need for additives that can create large volumes of seriously poisonous gases when exposed to fire. They also match or exceed these conventional coatings in application capabilities in extreme weather applications as experienced in oil and gas fields while being cheaper and easier to maintain when and if damage has to be repaired.

Main Advantages of NanoTech Coatings Eco Liner

- Eco Liner is not petroleum based
- Eco Liner does not release isocyanates
- Eco Liner waste is 100% recyclable
- Eco Liner is made of natural products - castor oil and gypsum
- Eco Liner is considerably cheaper
- Eco Liner has a far wider resistance range to chemicals
- Eco Liner outperforms in repair of existing Eco Liner coating with 100% bond
- Eco Liner has better thickness range
- Eco Liner is easier to apply
- Eco Liner is self-extinguishing, releasing harmless water vapor
- Eco Liner is not attacked by fungus
- Eco Liner matches or exceeds longevity

