DTM Polyaspartic Coatings

Field performance update

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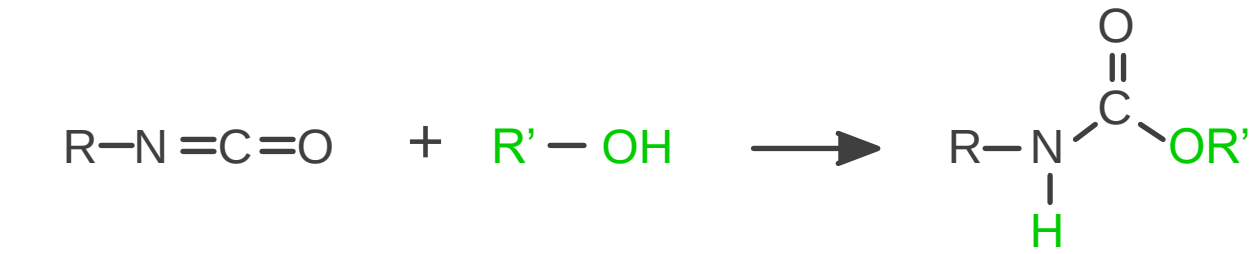
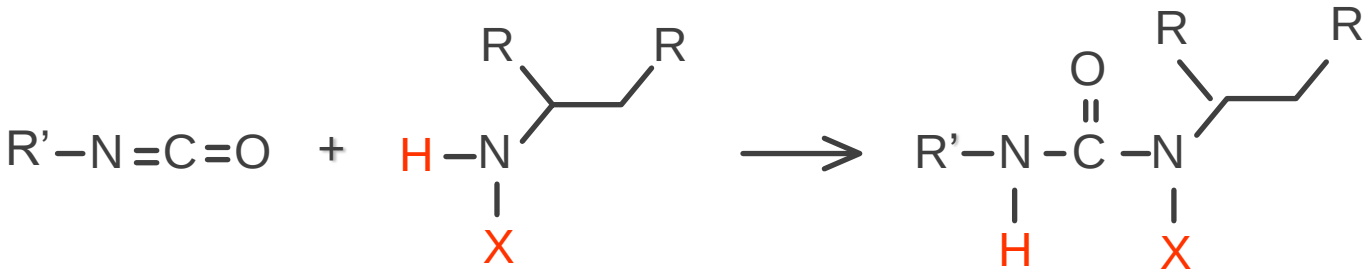
Agenda

- Brief technology review
- Case History
- Summary

Polyaspartic coatings are based on polyurea chemistry



Isocyanate Polyol Urethane



Isocyanate Aspartate Aliphatic Urea

Polyaspartic coatings bring both application and physical property advantages

Application

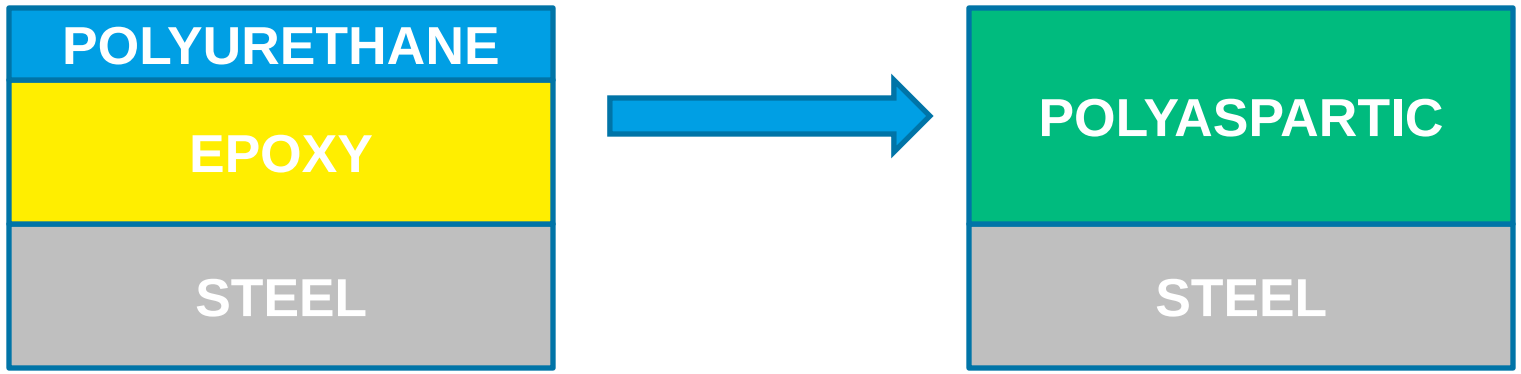
- Fast cure with potlife
- High film build
- Spray, brush, and roll

Physical Properties

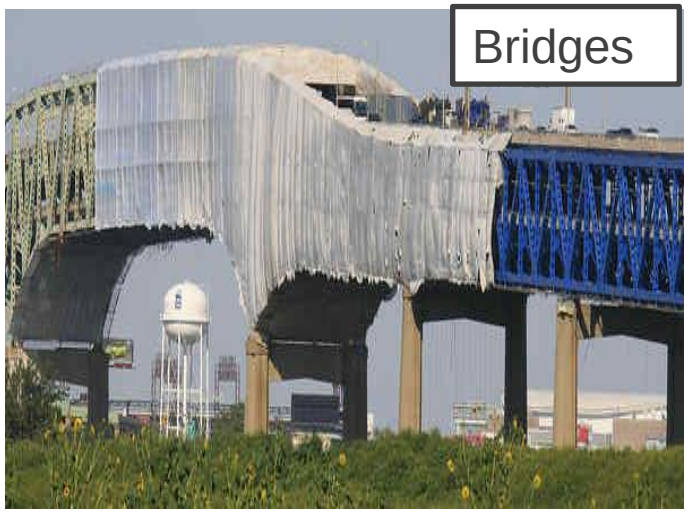
- Color and gloss retention
- Edge retention
- Corrosion resistance

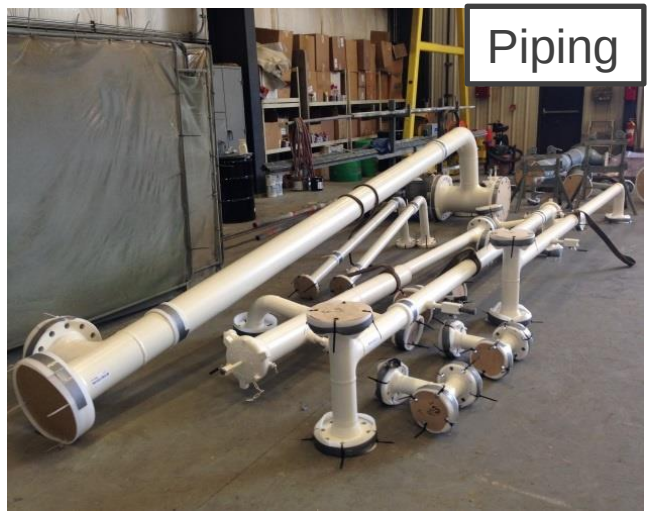
Increased shop throughput without sacrificing performance

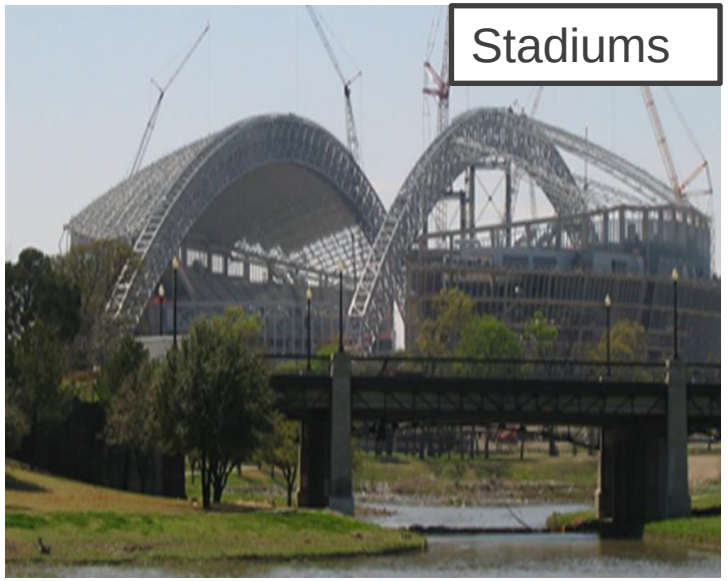
- **Increasing throughput by faster drying and handling times**
- **Combining the benefits of the epoxy and the polyurethane**
- **Excellent low temperature cure**



Diverse market applications for polyaspartic coatings







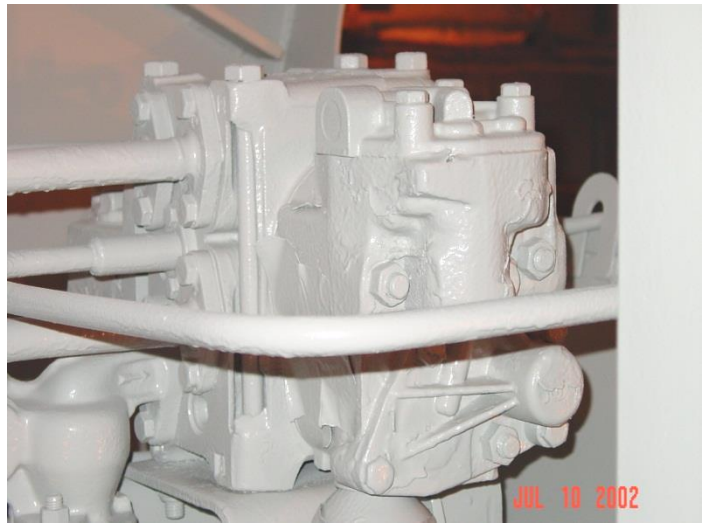
Case history – original application 2002

- ~ 250 Hopper cars coated with a DTM polyaspartic between 2002-2003
  - Steel blasted to SSPC-SP 6 / NACE No.3
- Two applicators applied 8-10 mils DFT
- 40 min/car

Original application replaced epoxy/polyurethane

- **Excellent application in hard to coat areas**
- **~30% Savings in time and labor**

Coating System	Material Usage	Labor Usage
DTM Polyaspartic	36 Gallons	10.5 Hours
2 Coat Epoxy/ Urethane	35 Gallons	15.5 Hours



Decals applied 3-4 hours after application

Case history – 14 years of solid performance

- **Originally painted 2002**
- **14 years in service with less than 0.1% rusting**
- **Performance equal to epoxy / polyurethane systems**

2002

2016

Case history – equal performance to epoxy/polyurethane

LUPX 60676 - PAS

LUPX 60630 – EP/PUR

Case history – excellent performance

LUPX 60758

LUPX 60798

Excellent protection on welds

Excellent protection in hard to coat areas

Resistance to rust undercutting

Case history – Significant DFT remain after 14 years in service

Car Number	Coating System	% Rusting	Average Coating DFT (mils)	Number of DFT Readings
LUPX 60607	DTM PAS	<0.1	~ 6.0	54
LUPX 60676	DTM PAS	<0.1	~ 6.2	57

- **After 14 years, ~ 3 mils have eroded / chalked away.**
  - This equates to a rate of ~0.2 mils per year
  - In comparison aromatic epoxies erode / chalk at a rate of ~1.0 mils per year

- **At the current rate, after another 10 years, ~ 4 mils of polyaspartic coating should be protecting the steel**

Summary

- **Polyaspartic coatings can increase throughput in painting operations by reducing the number of layers and providing quick drying characteristics**

- **Based on field experience, 8-10 mils of polyaspartic is expected to last 20-25 years prior to repainting**

QUESTIONS?

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