Myrinol™ HP 210 Flex: High Performance Liquid Polyol

Myrinol™ HP 210 Flex is made from bio- renewable monomers and is a cost effective polyol for use in cast elastomers, thermoplastic urethanes, coatings, adhesives, and other systems. **Polymers produced with Myrinol™ HP 210 Flex offers physical properties that rival polycarbonate and surpass traditional petroleum-based polyesters, with a balance of flexibility, resilience, abrasion resistance, and adhesion.**

Applications

Cast Elastomers

Myrinol™ HP 210 Flex can be used to synthesize cast elastomers with toughness and resiliency that rival polycarbonate -based materials.

Thermoplastic Urethanes

TPUs synthesized from Myrinol™ HP 210 Flex reveal some of the toughest, most resilient properties available.

2K Urethane

Myrinol™ HP 210 Flex is an excellent candidate for extremely tough polyurethanes when combined with aromatic or aliphatic isocyanates. The optimal systems can be either 100% solids, solventborne or waterborne.

Moisture Cure Urethane

In addition, the urethane formulator can synthesize outstanding prepolymers using Myrinol™ HP 210 Flex for adhesive or similar uses.

Polyurethane Dispersions

Thermoplastic or self-crosslinking polyurethane dispersions made from Myrinol™ HP 210 Flex reveal a tough, abrasion resistant coating without loss of adhesion.

UV Cure

Myrinol™ HP 210 Flex is an excellent choice for synthesis of 100% solids or waterborne UV curable systems.

Thermoset

Myrinol™ HP 210 Flex can be added to a curable thermoset system, specifically cationic cure, as it will cross-link into the matrix revealing tough, resilient coatings or composites.

Typical Properties	
Color	< 2 Gardner
Hydroxyl Number	205 – 225 mg KOH/g
Acid Number	2.0 mg KOH/g, max
Viscosity	11,300 cPs (25°C)
Specific Gravity	1.1
Water Content	500 ppm, max

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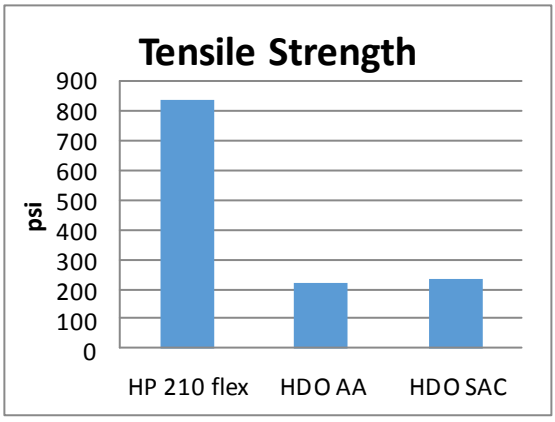
Myrinol™ HP 210 Flex: 2K Urethane Application

While by no means exhaustive, the following formulation demonstrates efficacy in two component urethane systems.

Formulation

Myrinol™ HP 210 Flex was catalyzed with 50 ppm dibutyl tin dilaurate and mixed at an index of 1.05 with a commercially available HDI trimer (aliphatic isocyanate).

Mechanical Properties



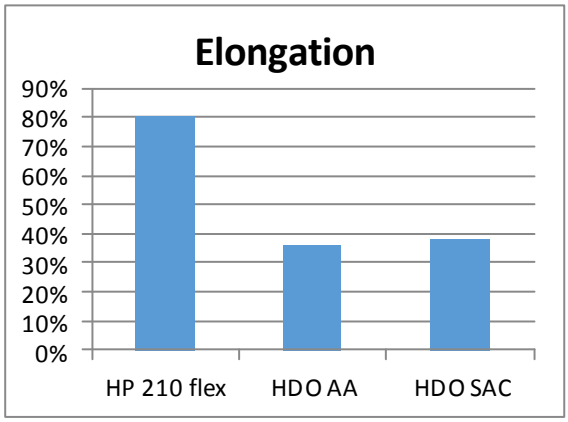


Figure s 1 and 2: Tensile strength and elongation of Myrinol™ HP 210 Flex compared to traditional hexanediol adipate (HDO AA) and hexanediol succinate (HDO SAC).

Myrinol™ HP 210 Flex reveals outstanding tensile strength without loss of elongation when compared with traditional petroleum-based polyester polyols at commensurate molecular weights.

Abrasion Resistance

Table 1: Taber abrasion, 1000 cycles, CS 17 wheel

Polyol	Total Loss, 1000 cycles
Polycarbonate	2.6 mg
Myrinol™ HP 210 Flex	0.0 mg*

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