



POLYURETHANE DISPERSION (PUD)

Manufactured by: Sidhe Petrochemicals, Gujarat

GMP & GLP Certified | FDA-Approved Facility | Halal & Kosher Certified Facility

Sidhe Petrochemicals Proudly presents high purity Polyurethane Dispersions (PUD) a waterborne system where polyurethane particles are dispersed in water, offering a low-VOC (Volatile Organic Compound) alternative to traditional solvent-based polyurethanes. Wide variety of applications ranging from making High Quality Synthetic Leather, High Performance Adhesives, High Performance Wood Coating, Automotive Interior coatings, Coatings for apparel and industrial fabrics and making high performance water proofing cement mortars. These products are produced at our state of art the art GMP and GLP certified unit based at Kandla Gujrat. Quality of products complies with international standards.

Polyurethane Dispersions are a colloidal system in which high-molecular-weight PU particles are dispersed in an aqueous medium having Major Advantages i.e. replaces solvent-based systems, reducing toxic emissions and odours, also having properties of Excellent flexibility, Durability, Abrasion Resistance, and Adhesion to Various Substrates.

Category of Products

Sr. No.	Product Category	Industry	Recommended Application	Product Description
1	Elastomeric Aliphatic Polyurethane Dispersions	Paints & Coatings, Synthetic Leather	High Solid Solvent free Elastomeric Paints and Coatings on Flexible Substances such as Concrete, Wood etc. Comfortable with Acrylic Emulsion.	Leather and Latex Glove Coatings. Concrete, Wood, etc. Flexibilising Resin for Acrylic Emulsions.
2	Aliphatic Solvent-Free Polyurethane Dispersions	Wood Plastic and Textile	Primer Coating for various Plastic Substrates (eg: PVDC, PVC, PP etc incl Food Packaging)	Used in a various substrate esp. Plastics
3	Polycarbonate Aliphatic Hybrid Self-Crosslinking Polyurethane Dispersions	Construction Surface Coating & Water Proofing	P1 k system for clear direct to Concrete Coatings. Superior hot tyre resistance. Excellent Water, Alkali and UV resistance. Good imprint resistance. Also, for high build clear films on Pebbled Concrete Driveways & Warehouses.	Low VOC PU dispersion, Good Hardness and clarity
4	Aliphatic Hybrid Polyurethane Dispersions	Paints & Coatings	Concrete coatings, Good hot tyre resistance. Excellent Water, Alkali and UV resistance. Industrial Wood Coatings, good imprint resistance	Aliphatic Hybrid, Cost effective, Low VOC, Flexibility & tough dispersion. High tensile.

5	Other Specialty Polyurethane Dispersions	Plastic, Wood Coating	Parquet flooring. Hard, tough with a good degree of flexibility. Excellent Alcohol and Saponification resistance	Outstanding abrasion and chemical resistance. Early water resistance & hardness development.
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Product Specification:-

Physical Properties:

Test Description	Unit	Specifications	Test Method
Physical Appearance		Milky white translucent liquid	
Purity Solids Content	% %	99+/-1% Pure 30-60 % Solids	FTIR /ASTM D 4274 ASTM D 2369
pH	--	7-9	ISO 976 :2020
Viscosity	cPs @ 25 °C	50-500	ASTM D 2196
Density/Specific Gravity	g/cm ³	1-1.1	ASTM D 1475
Particle Size	Nm	100-200	ISO 22412 DLS
NCO Content	Ppm	< 10 ppm	ASTM D 5155
Particle Charge		Typically Anionic	

Cured PUD Film Properties

Test Description	Unit	Specifications	Test Method
Elongation at break	%	Minimum 190%	ASTM D0882/ ISO 527-3
Konig Hardness	Number of oscillation	Greater Than 150	ASTM D 4366/ ISO 1522
Film Property	% of original test measurement retention.	Hard yet flexible, clear and UV resistant. Excellent water and solvent resistance. Excellent abrasion resistance. Excellent chemical resistant. Excellent saponification resistance	ASTM G 154 ASTM D 870 . ASTM D 4366 ASTM D1308, ASTM D543. ASTM D 1308

Regulatory Compliance and Safety Standards:

- **BIS Certification:** Mandatory for PU articles, requiring adherence to IS 17397 (Part 1):2020 or ISO 16365-1:2014.
- **Quality & Safety:** Ensures uniform product quality, safe usage, and market access.
- **Environmental Compliance:** Increasingly important; look for low VOC content and documentation on harmful substances.

Storage & Packaging

- Available in HMHDPE 50 Kg and 200 Kg barrels.
- Recommended to store in original sealed pack at cool and dry well-ventilated place, preferably between +15 °C to +30°C.
- Avoid direct sunlight, extreme heat/cold, and high humidity to prevent viscosity changes, separation, and moisture issues.

Disclaimer :

The data contain here are for information purpose only and are believed to be reliable. We can not assume the responsibility for results obtained by other overs whose method which is beyond our control. Sidhe Petrochemicals Pvt Ltd , disclaims all warranties arising directly or indirectly use of our material, customers are requested satisfy them selves by doing necessary trials of our products for their intended use.

Why Choose Sidhe Petrochemical

- Being one of the large polyols players in India , therefore, supply reliability is assured
- GMP and GLP certified state of the art manufacturing site.
- Consistent quality with stringent quality standards.
- Customer centric approach for all technical support for end use establishments.

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