TECHNICAL DATA SHEET

AKZ APU-H210

PRODUCT & FORMULATION

Product description

Waterborne aliphatic polyurethane-acrylic hybrid binder for the formulation of clear and pigmented coatings. Supplied as a one-component (1K) resin dispersion; this is a formulation raw material, not a ready-to-use paint.

Supplier-declared properties

Property	Value	Condition / basis
Non-volatile content	75% by weight	Supplier-declared
Viscosity	< 100 mPa.s	At 25 degrees C
pH	7.4 - 8.5	As supplied
Appearance	Milky white	As supplied
Density	Approx. 1.11 kg/L	Calculated mass / volume

Formulation guidance

A coalescing aid may be required to obtain a continuous film. An initial laboratory evaluation may use approximately 10% coalescent relative to resin solids. Adjust the dosage to the formulation and confirm film formation, stability and performance before scale-up.

At 75% solids, a 10%-on-solids starting dose equals 75 g coalescent per kg of dispersion. This is not a validated recipe; additions affect viscosity, solids, VOC and drying.

Coalescent examples

Abbreviation	Chemical name
DPnB	Dipropylene glycol n-butyl ether
DPM	Dipropylene glycol methyl ether
PnB	Propylene glycol n-butyl ether
PnP	Propylene glycol n-propyl ether

Properties and applications

Binder for ambient-drying or heat-assisted clear and pigmented coatings on wood, prepared metal, PVC, fiberglass and other plastics. Formulation development can target film hardness, flexibility, water and abrasion resistance, and chemical and solvent resistance. Surface preparation and coating-system suitability require application-specific testing.

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FILM PERFORMANCE & HANDLING

Film-performance comparison benchmarks

These values are retained from the supplied equivalence documentation as comparison benchmarks. They are not independent laboratory results for APU-H210 or proof of AAMA certification. Confirm all performance in the intended H210 formulation.

Test on pigmented PVC coating	Benchmark result
Dry adhesion	Pass
Wet adhesion	Pass
Boiling-water adhesion	Pass
Pencil hardness	2H
Detergent resistance	Pass
Mortar resistance	Pass
Window-cleaner resistance	Pass
Muriatic-acid resistance	Pass
Impact resistance	160 inch-lb
Falling-sand abrasion resistance	> 40 L/mil
Humidity resistance	4,000 hours

Benchmark preparation and test context

Pigmented coating evaluation under AAMA 614-20/615-20. Test-document formulation identifier: 57864-B. Spray application on acetone-wiped PVC; target dry film 1.5 mil (approximately 38 micrometres). Ambient flash-off, then 10 minutes at 50 degrees C, followed by seven days at ambient temperature before testing. This is the benchmark protocol, not a validated H210 production schedule.

Adhesion comparison benchmarks

Substrate	ASTM D3359 Method B
PVC / PC / ABS / PC-ABS	5B / 5B / 5B / 5B
Fiberglass composite	4B
Chromate-pretreated aluminum	5B

Storage and safety

Store in sealed containers at 5 - 40 degrees C. Protect from freezing, excessive heat and contamination. The stated storage period is six months from receipt under these conditions; confirm the batch label and supply conditions.

Read the product Safety Data Sheet (SDS) and label before handling. Evaluate compatibility, stability, adhesion, hardness, flexibility and resistance in the complete formulation before production. This sheet is not a batch Certificate of Analysis (CoA).