



A Step Ahead...

QUAKER COLOR

DIVISION OF McADOO & ALLEN, INC.

201 S. HELLERTOWN AVENUE P.O. BOX 219
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Technical Data Sheet

Product Code: AB-30F

DESCRIPTION

AB-30F is an aliphatic, lightfast water-borne urethane dispersion, designed for high performance areas where flexibility, chemical and abrasion resistance are required. The aliphatic backbone of **AB-30F** provides excellent UV and hydrolysis resistance. Due to **AB-30F**'s compatibility, it is a good choice as a flexibility modifying resin for hard acrylics and urethanes.

FEATURES

- Cold Impact
- UV Resistance
- Abrasion Resistance
- Chemical Resistance
- Flexibility

Suggested Markets: Flexible plastics and metal.

TYPICAL PROPERTIES

| | |
|-----------------------------------|-----------------------------|
| Type | Aliphatic polyurethane |
| Appearance | Translucent blue dispersion |
| Total solids by weight, % | 32 – 35 |
| pH | 8.0 |
| T _g | -48°C |
| Viscosity, Brookfield, 25°C, cps | 300 |
| Specific gravity of solids @ 25°C | 1.00 |
| Freeze/thaw stability | Passes 5 Cycles |
| Shelf life | 18 months |

STORAGE

Store in a cool, dry place, preferably less than 80°F, to ensure a useful shelf life of 18 months. Protect from freezing. Mix before use.



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FILM PROPERTIES

AB-30F produces films with exceptional toughness, flexibility and abrasion resistance. Typical application and performance properties of clear films from **AB-30F** are described in Tables I and II.

Table I
Application Properties of Clear Films*

| Dry Time | Sward Hardness Development |
|---------------------------|----------------------------|
| Set to touch 19 mins. | 4 hours 4 |
| Dry to touch 24 mins. | 8 hours 10 |
| Through dry 1 hr. 20 min. | 12 hours 12 |
| | 24 hours 16 |

Table II
Physical Performance Properties of Clear Films*
 (After 7 days curing at ambient conditions)

| | |
|---|------|
| Pencil hardness | 2H |
| Taber abrasion | 10 |
| (mg. loss per 1000 cycles, CS-17 wheel, 1000 gram load) | |
| Impact resistance @ 30°F, in-lb. | |
| Direct | 160 |
| Reverse | 160 |
| QUV Weatherometer 500 hrs. | |
| Oxidation | None |
| Blistering | None |
| Yellowing | None |
| Loss of Gloss | None |
| Salt Spray 95% R.H. 5%NaCl | |
| Pass 28 hrs. | |
| Free film properties | |
| 100% modulus, psi | 1400 |
| Tensile strength, psi | 4800 |
| Elongation, % | 650 |

*Films cast on untreated cold rolled steel at 1 mil dry.



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FORMULATING GUIDE

Flash Rusting

Flash rusting is seldom encountered with systems based on **AB-30F**. However, unusually high humidity conditions may cause some problems, and in these cases, ammonium benzoate is effective in reducing flash rusting.

Mar Agents

Normally **AB-30F** exhibits excellent mar resistance. Where additional mar resistance is required, **BYK 301** can be used.

BYK 301 1-2 pounds/100 gallons

Defoamers

The following defoamers are suggested for **AB-30F**.

Foammaster 111 2-3 pounds/100 gallons

Foammaster NS-1 2-3 pounds/100 gallons

Drewplus Y-200 2-3 pounds/100 gallons

Flow and Leveling

To obtain optimum leveling and substrate wetting with **AB-30F**, a surface active agent should be added. The following materials are recommended.

BS-088 Fluorosurfactant

Zonyl® FSP 0.5-2 pounds/100 gallons

Crosslinking

Air dry crosslinkers such as **Isocyanate Crosslinker**, **Carbodiimide** may be incorporated to optimize adhesion, corrosion and chemical resistance. **Isocyanate Crosslinker** 3-7% by weight on dry resin.

Thickening

Recommended procedures include good agitation, slow addition and where possible, pre-dilution with water.

Thickeners

QC AM-75 Strong Thickening

QC AM-80

Swelling Solvents

Ethylene Glycol Monobutyl Ether Strong Swelling

n-Butanol Strong Swelling

Methylethylketone Moderate Swelling

Texanol Moderate Swelling

Isopropanol Moderate Swelling

Quaker Color manufactures all its products under carefully controlled conditions to meet rigid specifications. The values given in this publication are typical values intended as guidelines for the use of the products, they are not specifications. It is the user's responsibility to thoroughly test the product in their particular application to determine its performance, efficacy and safety. Should you require the actual specifications currently enforced on specific products contact your Quaker Color representative for the appropriate information.