

# ACRONAL® PRO 770 NA

## Product description

Styrene-acrylic emulsion polymer for direct to metal (DTM) paints and anticorrosive primers

## Key benefits

- Superior corrosion protection
- Good adhesion to metal substrates
- Excellent application properties (airless spray, dip coating, etc.)
- Excellent outdoor durability
- Good pigment wetting
- Excellent protection achieved by zinc-free formulations or with low zinc content
- Zinc and APEO free

## Chemical Nature

Styrene acrylic dispersion

## Properties

### Typical Properties

Solids content	%	48.5 – 50.5
pH value		7 – 8.3
Viscosity	cps	<1000
(Brookfield; #2/ 30 rpm / 25 °C / 30 sec)		
Density		~ 1.05 g/cm <sup>3</sup>
Minimum film-forming temperature (MFFT)		~ 19 °C
Acid value (on solids)	calculated	~ 7 mg KOH/g
Freeze/thaw stable		no

## Application

ACRONAL® PRO 770 NA can be used universally to formulate waterborne direct to metal (DTM) paints and anticorrosive primers. It shows excellent adhesion to metal substrates.

ACRONAL PRO 770 NA shows outstanding anti-corrosive properties both in glossy DTM and matte monocoat / primer applications especially without or with only limited addition of phosphate anticorrosive pigments.

## Formulation guideline

To achieve good film formation, it is necessary to have sufficient coalescing solvent present after most of the water has evaporated. ACRONAL PRO 770 NA has been shown to form a good film at room temperature with levels of approximately 1.5 - 4 % coalescing solvent on total formulation. Typical coalescent solvents may be used, in particular EB, DB, and PnB showed good results for glossier paints. For higher filled primers we recommend a combination of phenoxy propanol with white spirit (180 - 210 °C) (1:1).

For anti-corrosive paint the adhesion and early water resistance may be further improved by the addition of high boiling solvents (e.g. LOXANOL® CA 5308) or plasticizers (e.g. EFKA® PL 5646) or a combination of both.

## Dispersing agents

For colored glossy paint, DISPEX® Ultra PX 4290 was found to show superior performance when compared to other dispersants.

Please note that this dispersion shows moderate stability to bivalent ions like Zn<sup>2+</sup>. Therefore, we recommend DISPEX CX 4425 for good zinc phosphate stability (up to 5% zinc phosphate or similar type anticorrosive pigment). At 5% content this dispersion is known to outperform other dispersions in formulations containing significantly higher amount of zinc phosphate. An alternative dispersing resin for good thermal stability of the paint is JONCRYL HPD 296-E.

#### Defoamers

Typical defoamers for waterborne industrial paint may be used. For glossy paint, we found good properties with FOAMSTAR® ED 2522 and FOAMSTAR® SI 2210. Typical dosage levels are app. 0.2% of delivery form on total formulation for pigment grinding and let down. For primer formulations, mineral oil defoamers like FOAMASTER® MO NDW have been found to be beneficial.

#### Rheology modifiers

For the application of ACRONAL PRO 770 NA in anticorrosive paint, especially on untreated metal, it is recommended to use urethane thickeners (HEUR), for example RHEOVIS® PU 1192 and RHEOVIS PU 1251.

#### Flash rust / Organic inhibitors

It is recommended to use a flash rust inhibitor on metal surfaces to avoid the formation of flash rust. ACRONAL PRO 770 NA shows good compatibility with common types on the market (nitrite and organic).

#### Starting Point Formulation

### ACRONAL PRO 770 NA White DTM Formulation

Materials	Pounds	Gallons
<b>GRIND</b>		
DI Water	76.68	9.19
Dispex® Ultra PX 4290	13.52	1.62
Hydropalat® WE 3650	2.03	0.25
FoamStar® ED 2522	3.16	0.36
DMEA	1.06	0.14
Ti-Pure <sup>1</sup> R-900	216.54	6.48
<b>HIGH SHEAR DISPERSE FOR 30 MINUTES at 3400 RPM</b>		
<b>LET DOWN</b>		
Acronal PRO 770 NA	613.58	70.02
Grind (add grind to resin)		
DI Water	36.31	4.35
DB (diethylene glycol monobutyl ether)	33.44	4.20
FoamStar® ED 2522	2.06	0.23
Halox <sup>2</sup> 515	23.82	2.69
DMEA	2.06	0.28
Rheovis® PU 1251	1.54	0.17
Total		100.00

### Formulation Attributes (calculated)

Solids (wt %)	51.60
Solids (vol %)	40.45
PVC	16.04
VOC (g/L)	99.06

<sup>1</sup>Registered trademark of Chemours, Inc.

<sup>2</sup>Registered trademark of ICL Phosphate Specialty

## Safety

### General

The usual safety precautions when handling chemicals must be observed. These include the measures described in Federal, State and Local health and safety regulations, thorough ventilation of the workplace, good skin care and wearing of protective goggles.

### Safety Data Sheet

All safety information is provided in the Safety Data Sheet for ACRONAL PRO 770 NA.

---

## Important

WHILE THE DESCRIPTIONS, DESIGNS, DATA AND INFORMATION CONTAINED HEREIN ARE PRESENTED IN GOOD FAITH AND BELIEVED TO BE ACCURATE, THEY ARE PROVIDED FOR GUIDANCE ONLY. BECAUSE MANY FACTORS MAY AFFECT PROCESSING OR APPLICATION/USE, BASF RECOMMENDS THAT THE READER MAKE TESTS TO DETERMINE THE SUITABILITY OF A PRODUCT FOR A PARTICULAR PURPOSE PRIOR TO USE. NO WARRANTIES OF ANY KIND, EITHER EXPRESSED OR IMPLIED, INCLUDING, BUT NOT LIMITED TO, WARRANTIES OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE, ARE MADE REGARDING PRODUCTS DESCRIBED OR DESIGNS, DATA OR INFORMATION SET FORTH, OR THAT THE PRODUCTS, DESCRIPTIONS, DESIGNS, DATA OR INFORMATION MAY BE USED WITHOUT INFRINGING THE INTELLECTUAL PROPERTY RIGHTS OF OTHERS. IN NO CASE SHALL THE DESCRIPTIONS, INFORMATION, DATA OR DESIGNS PROVIDED BE CONSIDERED A PART OF BASF'S TERMS AND CONDITIONS OF SALE. FURTHER, THE DESCRIPTIONS, DESIGNS, DATA, AND INFORMATION FURNISHED BY BASF HEREUNDER ARE GIVEN GRATIS AND BASF ASSUMES NO OBLIGATION OR LIABILITY FOR THE DESCRIPTIONS, DESIGNS, DATA OR INFORMATION GIVEN OR RESULTS OBTAINED, ALL SUCH BEING GIVEN AND ACCEPTED AT THE READER'S RISK.

*Acronal, Hydropalat, Dispex, FoamStar, Loxanol and Efka is a registered trademark of BASF Group.*

© BASF Corporation, 2024



BASF Corporation is fully committed to the Responsible Care® Initiative in the USA, Canada, and Mexico.  
For more information on Responsible Care® go to:  
U.S.: [www.basf.us/responsiblecare\\_usa](http://www.basf.us/responsiblecare_usa)  
Canada: [www.basf.us/responsiblecare\\_canada](http://www.basf.us/responsiblecare_canada)  
México: [www.basf.us/responsiblecare\\_mexico](http://www.basf.us/responsiblecare_mexico)

### BASF Corporation

Dispersions and Resins  
11501 Steele Creek Road  
Charlotte, North Carolina 28273  
Phone: (800) 251 – 0612  
Email: [CustCare-Charlotte@basf.com](mailto:CustCare-Charlotte@basf.com)  
[www.basf.us/dpsolutions](http://www.basf.us/dpsolutions)

### Mexico

BASF Mexicana, S.A. de C.V.  
Av. Insurgentes Sur #975  
Col. Ciudad de los Deportes  
C.P. 03710  
Mexico, D.F.  
Phone: (52-55) 5325-2756  
Fax : (52-55) 5723-3011