

Product information

ANQUAMINE[®] 728

Waterborne Curing Agent

DESCRIPTION

Anquamine 728 waterborne curing agent is a multi-purpose curing agent for use in concrete primers and topcoats, and delivers fast cure speed at low temperature (10°C) and high humidity (up to 85% RH). It can be used with solid epoxy resin dispersion, Ancarez[®] AR 555, and standard liquid epoxy resin. When used with liquid epoxy resins, Anquamine 728 curing agent can easily emulsify the resins without the need for emulsifiers or pre-emulsified epoxy resins. Coatings based on Anquamine 728 can be applied up to 20 mil in one coat with minimal impact on cure speed.

TYPICAL PROPERTIES

Property	Value	Unit	Method
Appearance	Clear yellow liquid		
Color	< 6	Gardner	ASTM D1544
Viscosity @ 25°C	5,000-15,000	Pa.s	Brookfield RV, Spindle 27
Amine Value	160-220	mg KOH/g	Perchloric acid titration
Specific Gravity @ 21°C	1.07		
Solids Content	53-58	wt%	
Equivalent Wt/{H}	250		
Recommended Use Level with solid epoxy dispersion *	34	phr	
Recommended Use Level with liquid epoxy resin **	125 - 130	phr	

ADVANTAGES

- Fast cure speed at ambient and low temperatures
- Excellent adhesion to dry and damp concrete
- Excellent carbamation resistance
- Low color and good yellowing resistance
- Excellent pigment acceptance and color stability through potlife
- Zero VOC

APPLICATIONS

- Waterborne concrete primers
- Waterborne pigmented concrete coatings
- Waterborne one-day flooring systems for concrete

SHELF LIFE

At least 12 months from the date of manufacture in the original sealed container at ambient temperature.

STORAGE AND HANDLING

Refer to the Safety Data Sheet on Anquamine 728 curing Agent.

TYPICAL HANDLING PROPERTIES WITH SOLID EPOXY RESIN DISPERSION *

Property	Value	Unit	Method
Potlife @ 23°C	50-60	min	ISO 9514 (gloss drop)
Thin Film Set Time @ 23°C	1.0	h	ASTM D 5895 - BK Drying Recorder Phase 3, 60% RH
Thin Film Set Time @ 10°C	2	h	ASTM D 5895 - BK Drying Recorder Phase 3, 60% RH
PersoZ Pendulum Hardness 24h/7d @ 23°C	210 / 330	s	ASTM D 4366, wet patch
Carbamation Resistance (Scale 1-5, 5=best)	5		ISO 2812 (wet patch method), after 24hrs @ 23°C

TYPICAL HANDLING PROPERTIES WITH STANDARD LIQUID EPOXY RESIN **

Property	Value	Unit	Method
Potlife @ 23°C	60	min	ISO 9514 (gloss drop)
Thin Film Set Time @ 23°C	2.5	h	ASTM D 5895 - BK Drying Recorder Phase 3, 60% RH
Thin Film Set Time @ 10°C	3.5	h	ASTM D 5895 - BK Drying Recorder Phase 3, 60% RH
PersoZ Pendulum Hardness 24h/7d @ 23°C	310 / 350	s	ASTM D 4366, wet patch
Carbamation Resistance (Scale 1-5, 5=best)	5		ISO 2812 (wet patch method), after 24hrs @ 23°C

* With Ancarez® AR-555 solid epoxy resin dispersion, EEW550, at 75% stoichiometry

** Liquid epoxy resin Epon 828 EEW=190, at 100% stoichiometry

TYPICAL HANDLING PROPERTIES WITH DILUTED LIQUID EPOXY RESIN ***

Property	Value	Unit	Method
Potlife @ 23°C	90	min	ISO 9514 (gloss drop)
Thin Film Set Time @ 23°C	4	h	ASTM D 5895 - BK Drying Recorder Phase 3, 60% RH
Thin Film Set Time @ 10°C	9	h	ASTM D 5895 - BK Drying Recorder Phase 3, 60% RH
Persoz Pendulum Hardness 24h/7d @ 23°C	240 / 350	s	ASTM D 4366, wet patch
Carbamation Resistance (Scale 1-5, 5=best)	5		ISO 2812 (wet patch method), after 24hrs @ 23°C

*** EEW=195, 90/10 wt Liquid epoxy resin Epon 828 with Epodil 748, at 100% stoichiometry

STARTING POINT FORMULATIONS

CLEAR FAST CURE PRIMER

Part A	PBW
Anquamine 728 Curing Agent	20
Part B	
Ancarez AR555	60
Part C	
Water	20
Application instructions	
Add part B to part A. Mix for 2-3 minutes until homogeneous. Add part C gradually and mix to adjust to application viscosity. Pour the primer onto substrate and spread by squeegee or roller.	

TECHNICAL DATA

Property	Value	Unit	Method
Mixed viscosity	200	cP	Brookfield RV, Spindle 18
Working time	50	min	ISO 9514 (gloss drop)
Walk on time @ 23°C	2-3	h	ASTM D 1640 (dry to handle)
Walk on time @ 10°C	2-3	h	ASTM D 1640 (dry to handle)

WHITE TOPCOAT

Nb.	Part A	PBW	Supplier
1.	Anquamine 728 curing agent	31.8	Evonik
2.	Surfynol DF-62 defoaming agent	0.1	Evonik
3.	Zetaspense 3800 dispersing agent	1.2	Evonik
4.	Ti-Pure R960 titanium dioxide	28.0	DuPont
5.	Tafigel PUR55 rheology modifier	0.7	Muenzing
6.	Dynol 980 leveling agent	0.5	Evonik
7.	Water	22.0	
Part B			
	Diluted LER	25	
Part C			
	Water	23.4	
Total Parts:		132.7	
Solids content (wt%)		55 %	

This system can be used as a white topcoat or as a base for tinting systems and further modified with pigment dispersions to offer a wide color pallet.

APPLICATION INSTRUCTIONS

Part A: mix component 1-3, and 5-6 at low shear until homogenous, slowly add component 4 while increasing the shear rate, grind with high speed disperser to a Hegman of 6, add water in portions during grinding.

Add part B to Part A at low shear. Mix for 2-3 minutes until a homogeneous emulsion is obtained.

Add part C gradually and mix until a homogeneous paint is obtained. Pour the paint formulation onto substrate and spread by a squeegee or a roller.

TECHNICAL DATA

Property	Value	Unit	Method
Mixed viscosity	200	cP	Brookfield RV, Spindle 18
Working time	120	min	ISO 9514 (gloss drop)
Walk on time @ 23°C	8	h	ASTM D 1640 (dry to handle)
Walk on time @ 10°C	12	h	ASTM D 1640 (dry to handle)



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