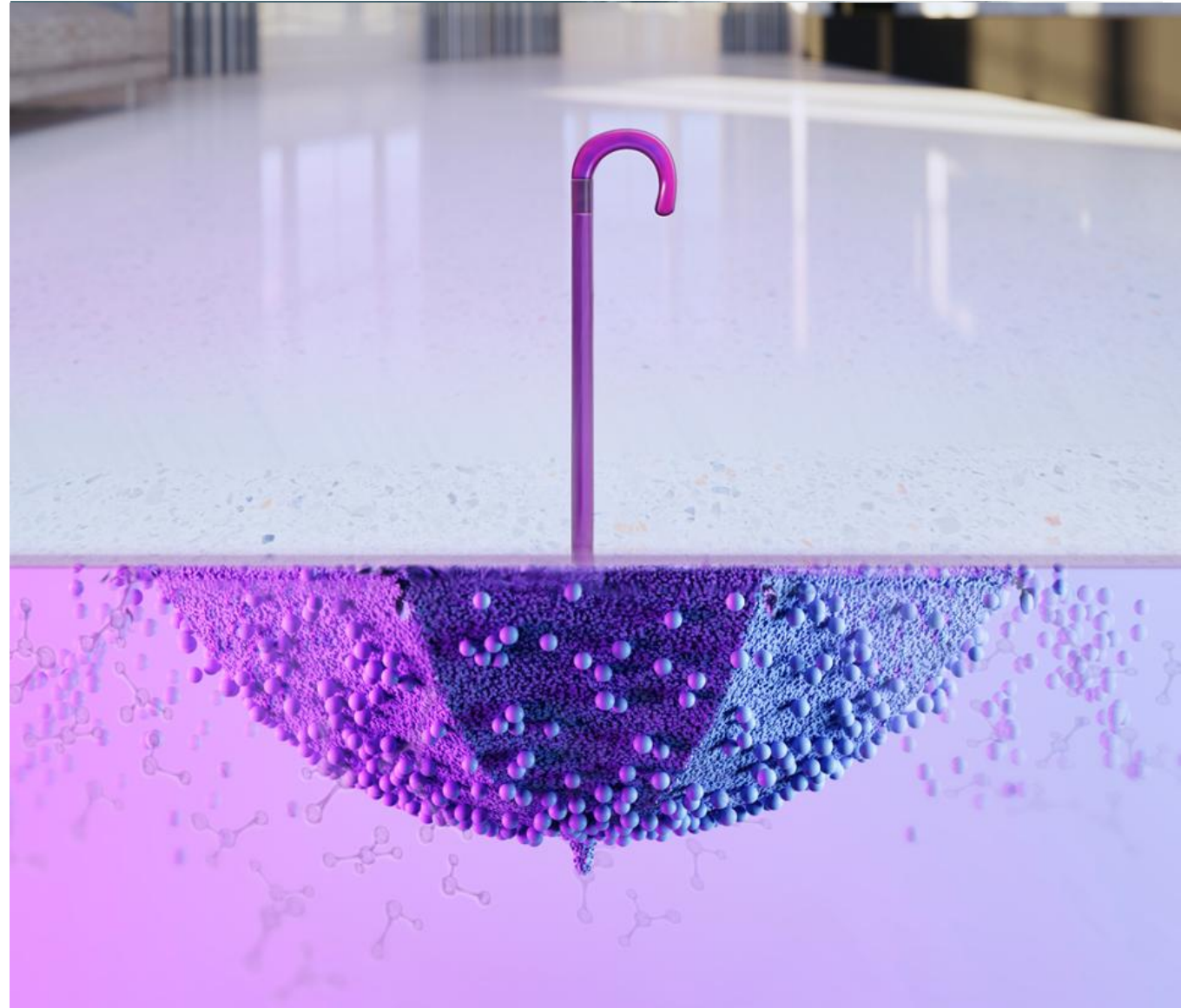


# Keep the Moisture out, Stop Floor Failures

— Ultrafast Moisture Vapor  
Barrier: **Ancamine® 2875**  
(prototype Cure2go MO-848-6)

February 2026



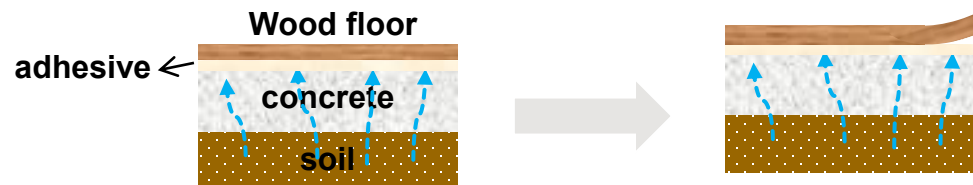
# Introduction: Floor Failures and Implications

## Key Issues and Implications

- **Blisters in Coatings:** Caused by entrapped moisture vapor.
- **Disbondment of Flooring Materials:** Adhesive degradation leads to failures in tile, wood, carpet, and laminate
- **Mold and Mildew Growth:** Negatively impacts indoor air quality.
- **Wet Floors:** Pose significant safety hazards.

## Financial Impact of Floor Failures

- **Liability Concerns:** Risk for construction teams, manufacturers, and architects.
- **Costly Removal and Reconstruction:** Rebuilding damaged floors can be expensive.
- **Economic Toll:** Moisture-related floor failures result in losses of hundreds of millions of dollars annually.

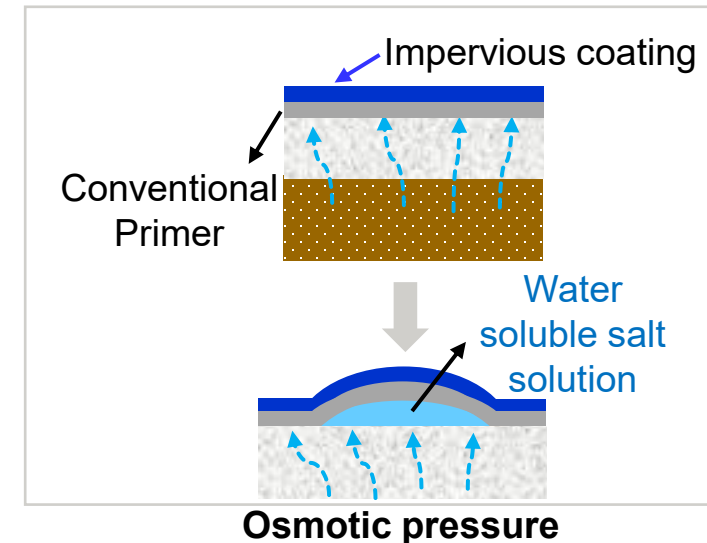
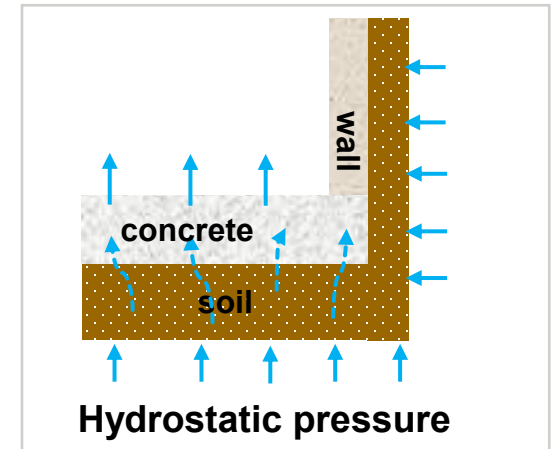


## The Solution

- **Moisture mitigation approach:** a proactive measure to prevent failures, saving both time and cost.

# What are the Root Cause for Floor Failure?

- **Moisture** causing floor failure
  - Concrete is a **porous** material
  - Moisture within concrete slab and water beneath transmit through concrete
- **Moisture vapor drivers**
  - **Hydrostatic Pressure** – the upward water pressure exerted below concrete slab in the below ground (water) conditions.
    - At 10 meters depth: approximately **15 psi**.
  - **Capillary Pressure** – caused by water moving through the small pores of concrete via capillary action.
    - Can reach up to **30 psi**.
  - **Osmotic Pressure** – generated by the concentration gradient across a membrane, which requires
    - Water Pressure: driven by capillary osmosis.
    - Semi-Permeable Membrane: Concrete as a semi-permeable barrier.
    - Soluble Components: salts and other soluble substances.
- **Adhesive Bond Strength** – about 200 to 350 psi
  - designed to resist hydrostatic, capillary, and osmotic forces



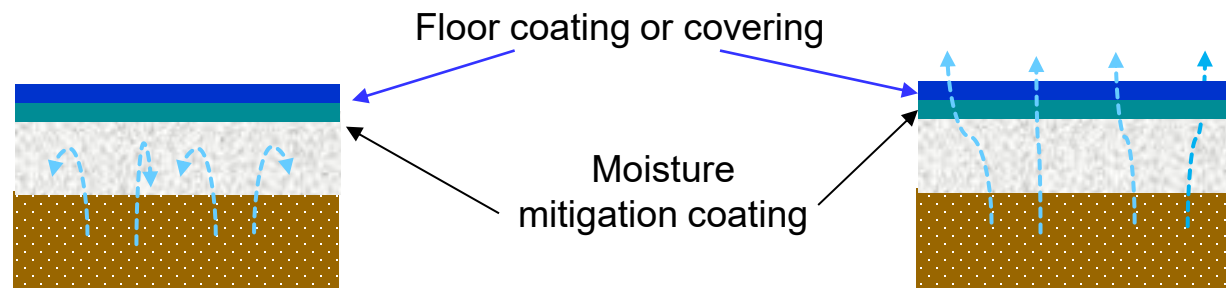
# Two Moisture Mitigation Approaches

## 1. Moisture Vapor Barrier (Blocking)

- Prevents upward moisture vapor movement
- Required for non-breathable flooring systems
- Ideal for modern seamless flooring systems (Broadcast, Terrazzo, etc.) and floor coverings (tile, carpet, laminate)
- American Concrete Institute recommends installing at least minimum vapor protection from concrete slab on grade (ACI 302.2R).

## 2. Moisture Vapor Permeable (Breathable)

- Allows controlled vapor diffusion through coating
- Used when osmotic pressure risk is high
- Suitable when all layers remain breathable



# Moisture Vapor Mitigation System Compliant with ASTM F3010

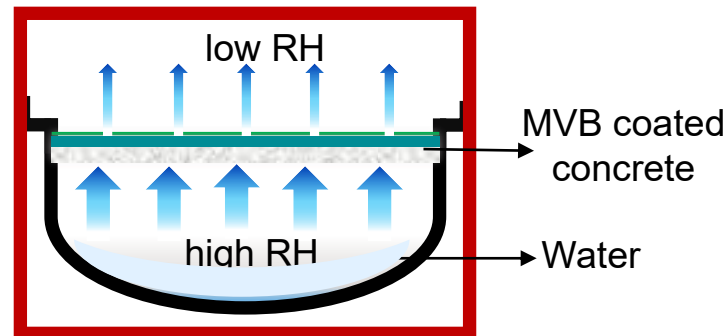
## ASTM F3010 Key Highlights

- Outlines performance and application of **liquid applied moisture vapor reduction systems** under floor coverings
- Measurement: in "**perms**" ( $\text{grains} \cdot \text{h}^{-1} \cdot \text{ft}^{-2} \cdot \text{inHg}^{-1}$ ), the ability of a material to suppress the moisture vapor diffusion

## Performance requirements

- **Moisture vapor permeance:** must be  $\leq 0.1$  perms as specified by ASTM E-96 testing
- **The International residential code:** defines **Class I moisture vapor retarder** as materials with  $<0.1$  perms
- **Concrete adhesion:** Ensures good long-term adhesion to concrete per ASTM D7234.

ASTM E-96 Wet Cup Method



Actual Test Specimen



# What are the Market Trends and Drivers in Epoxy Flooring?



## Enhanced Performance

- Good aesthetics
- Better UV and color stability
- Good chemical resistance
- Excellent adhesion



## Efficiency

- Fast return to service
- Low temperature cure
- High surface tolerance
- Robust application



## EHS, Eco and User Friendly

- Low to zero VOC
- Low emission for high indoor air quality
- Sustainability

# Market's Unmet Needs for Fast Moisture Vapor Barrier Product

- Strawmodel targets validated by customers

## Performance of Best Existing Fast Moisture Vapor Barrier Products

Properties	Commercial Product 1	Commercial Product 2	Commercial Product 3
EH&S Profile, <u>alkylphenol free</u>	x	x	x
Fast cure speed, <u>~2-3h @ 23 °C</u>	x	x	✓
Low temp cure, <u>~4-5h @ 10 °C</u>	x	x	x
Carbamation resistance (>4 @ <u>10 °C, 1 day</u> )	x	x	x
Working time, <u>&gt;30 minutes</u>	✓	x	x
Excellent adhesion to dry, damp and green concrete, <u>&gt;450 psi</u>	✓	✓	✓

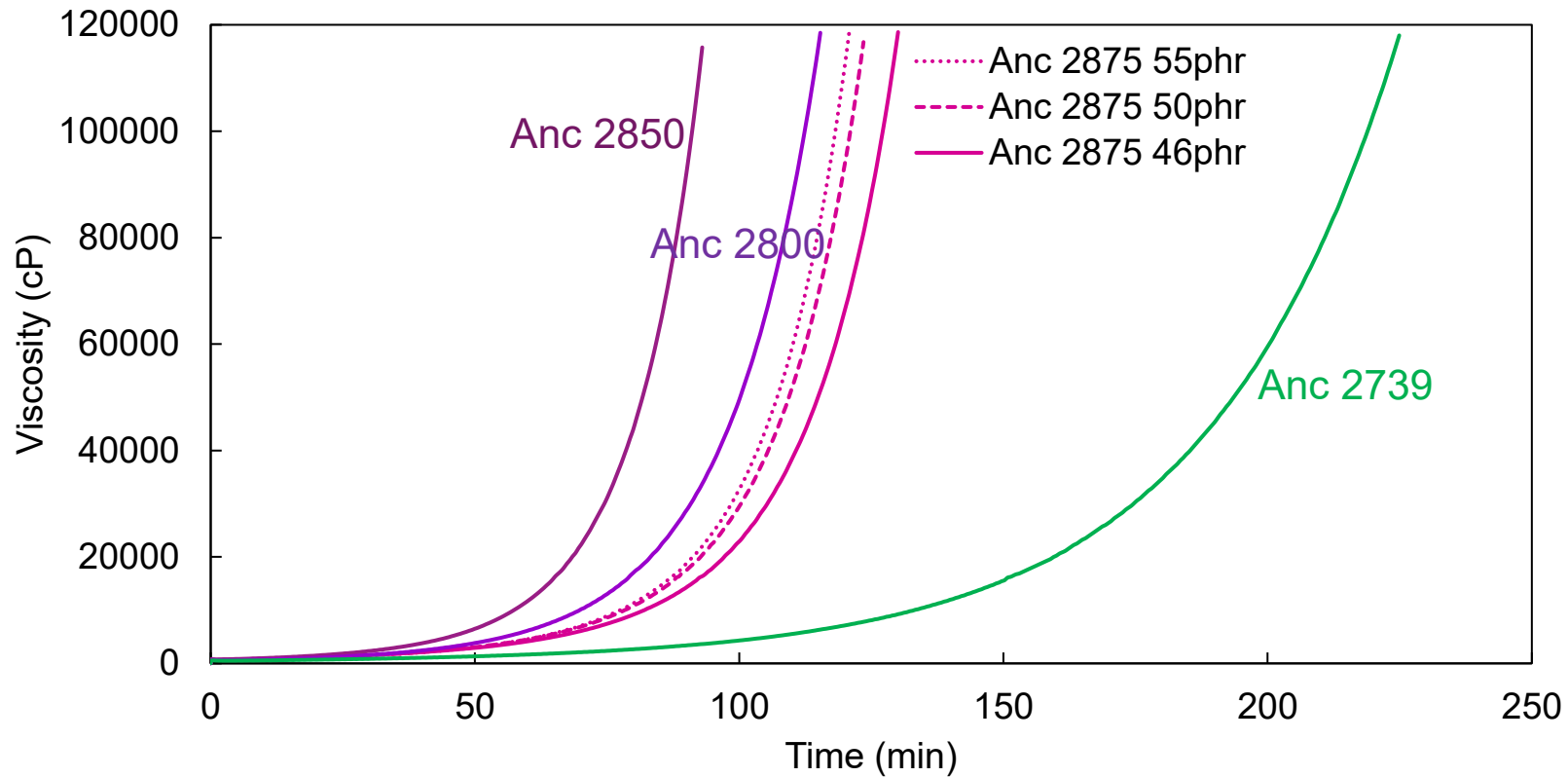
# Ancamine® 2875: New Low Emission Moisture Vapor Barrier Curing Agent

- Low emission technology enables ultrafast cure, long working time and an improved EHS profile

Handling properties	Ancamine® 2739	Ancamine® 2800	Ancamine® 2850	Ancamine® 2875	Ancamine® 2850	Ancamine® 2875
Resin, Epon 828 +	10% Epodil 748 10% Epodil 749			10% Epodil 748		
Neat Viscosity @25°C (cPs)	350	500	542	500	542	500
Mix Viscosity @25°C (cPs)	500	594	667	650	1050	1233
Use level (PHR)	40-45	40-45	35-40	45-55	35-40	45-55
Gel Time, 150g mass @ 25°C (min)	85	41	30	45	28	41

- 10% and 20% diluents show similar coating performance
- Mix viscosity of 20% diluent is much lower than 10%, offering ease of application.

# Ancamine® 2875 Provides Fast Cure Speed with Long Working Time



Cured with Epon 828 / Epodil 748 / Epodil 749 80/10/10 by weight

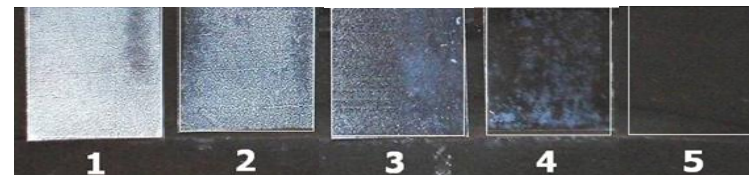
- Ancamine 2875 demonstrates slower viscosity build up than Ancamine 2800 and 2850.

# Ancamine® 2875 Enables Rapid Return to Service and Excellent Appearance

Handling properties		Ancamine 2739	Ancamine 2800	Ancamine 2850	Ancamine 2875*	Ancamine 2850	Ancamine 2875*
Resin, Epon 828 +		10% Epodil 748 10% Epodil 749				10% Epodil 748	
Thin film set time, phase 3 (hrs)	23 °C	11	6	4.5	3	4	2.8
	10 °C	20	12	10	5.3	7	4.7
Carbamation resistance, day1 (rating from 1 to 5)	23 °C	5	4	3	5	3	5
	10 °C	4	3.5	3	5	2	4.5

\*Tested at 50 phr

Carbamation resistance rating 1-5



# Ancamine® 2875 is Compatible with Reactive Diluents Epodil 746, 748 and 749

Reclassification of reactive diluent

- Epodil 748 was recently reclassified as Category 1B reproductive hazard; Epodil 746 was evaluated as an alternative

Handling properties		Ancamine 2850®	Ancamine 2875®*	Ancamine 2850®	Ancamine 2875®*
Resin: Epon 828 +		10% Epodil 748 10% Epodil 749		10% Epodil 746 10% Epodil 749	
Thin film set time, phase 3 (hrs)	23 °C	4.5	3	4.5	3.2
	10 °C	10	5.3	10	5.3
Carbamation resistance, day1 (rating from 1 to 5)	23 °C	3	5	3	5
	10 °C	3	5	2	4.5

- Epodil 748 and 746 provides similar cure speed and surface appearance

\*Tested at 50 phr

# Reactive Diluent Epodil 746 and Epodil 748 Provides Similar Performance

Handling properties		Ancamine 2850®	Ancamine 2875®*	Ancamine 2850®	Ancamine 2875®*
Resin, Epon 828 +		10% Epodil 748		10% Epodil 746	
Thin film set time, phase 3 (hrs)	23 °C	4	2.8	4	2.8
	10 °C	7	4.7	7	4.7
Carbamation resistance, day1 (rating from 1 to 5)	23 °C	3	5	3	5
	10 °C	2	4.5	2	4.5

\*Tested at 50 phr

- Epodil 748 and 746 provides similar cure speed and surface appearance.

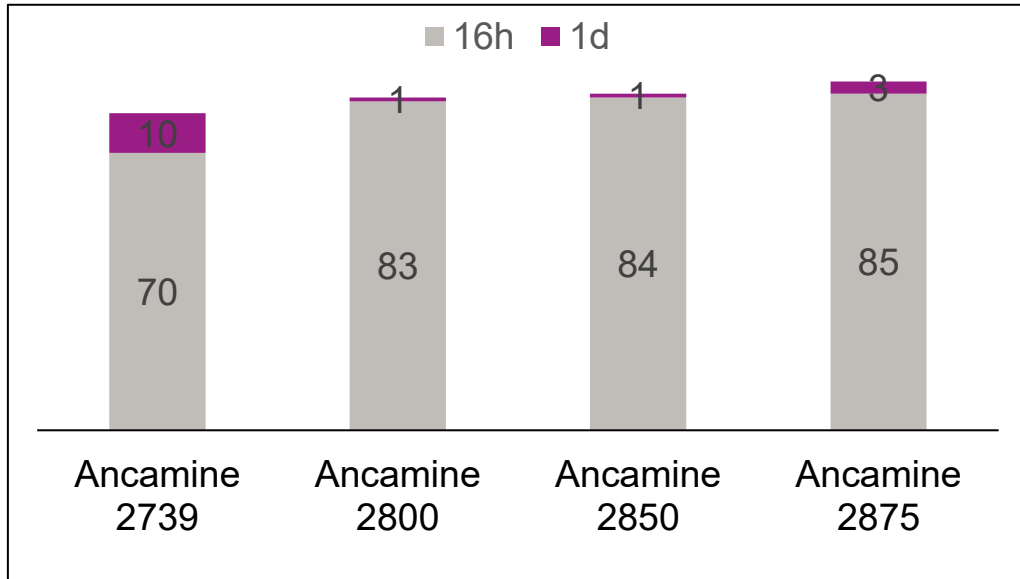
# Ancamine® 2875 Offers High Performnce at a Range of PHR Use Levels

Use level		46 phr (2/1 by vol)	50 phr (2/1 by wt)	55phr	46 phr (2/1 by vol)	50 phr (2/1 by wt)	55phr
<b>Resin, Epon 828 +</b>		10% Epodil 748			10% Epodil 746		
Thin film set time, phase 3 (hrs)	23 °C	3.5	2.8	2.5	3.6	3	2.6
	10 °C	5	4.8	4.5	5	4.8	4.5
Carbamation resistance, day1 (rating from 1 to 5)	23 °C	5	5	5	5	5	5
	10 °C	4.5	4.5	5	4	4.5	5
Gel time at 25C (min)		42	41	37	--	42	39

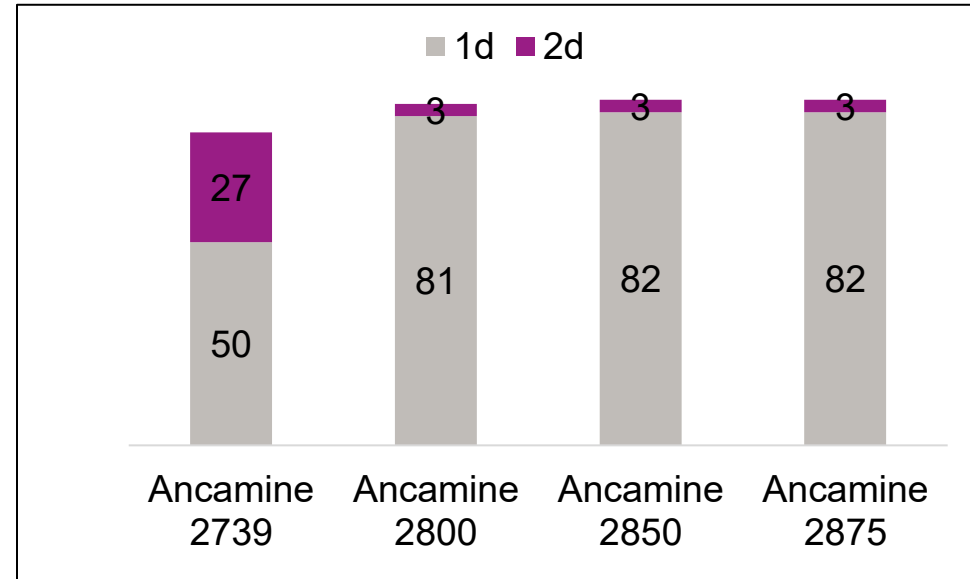
- Epodil 748 and 746 provides similar cure speed and surface appearance
- Higher phr shortens the gel time slightly

# Ancamine® 2875 Demonstrates Fast Property Development

Shore D hardness build at 23°C, 50%RH



Shore D hardness build at 10°C, 60%RH



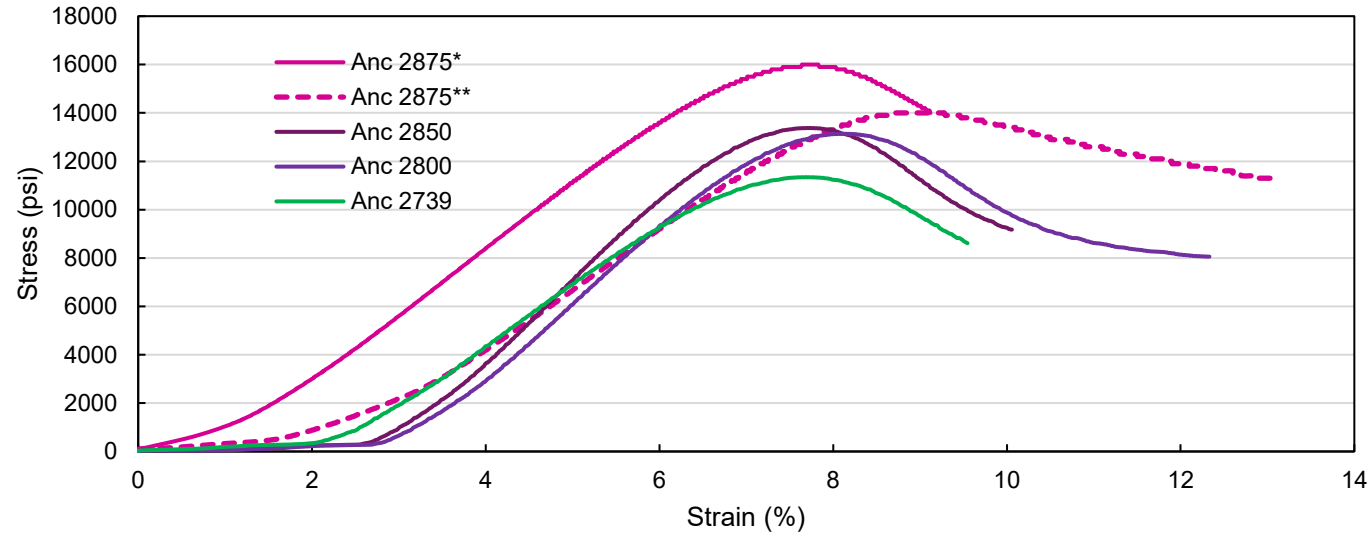
*Cured with 90/10 LER/Epodil 748*

*Tested at 50 phr*

- Rapid early property build-up, early walk-on, fast return to service

# Ancamine® 2875 Exhibits Excellent Compressive Properties

## High compressive strength by ASTM D695

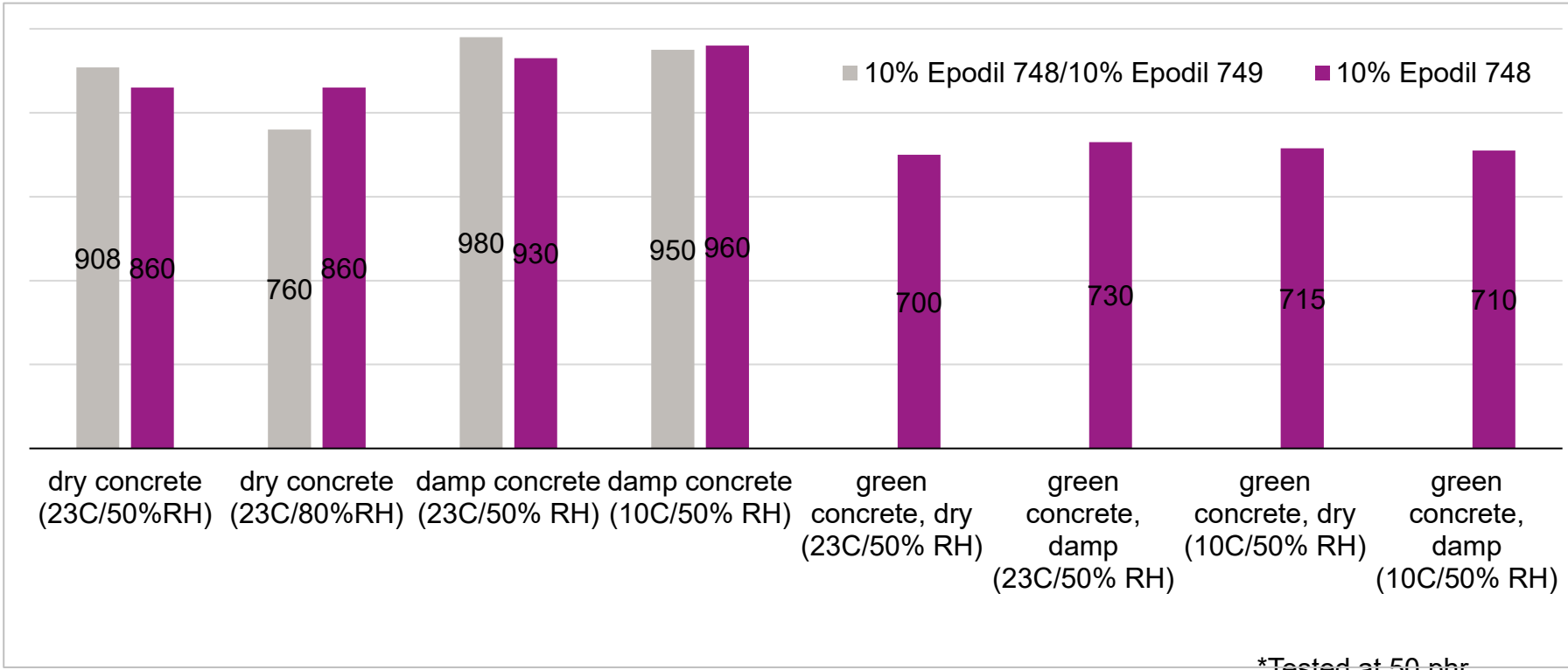


- Ancamine 2875 show high compressive strength
- 20% diluent displays higher flexibility (higher strain%) than 10% diluent

Curing agents	Ancamine 2739	Ancamine 2800	Ancamine 2850	Ancamine 2875*	Ancamine 2875**
Compressive strength (psi)	11,300	13,050	13,380	16,000	14,000
Compressive modulus (ksi)	300	330	320	260	270
Strain (%)	7.7	8.0	7.7	8.0	9.2

Ancamine 2739, 2800, and 2850 cured with DER353 (~15% Epodil 748); Ancamine 2875\* cured with Epon 828/Epodil 748 (90/10 weight ratio); Ancamine 2875\*\* cured with Epon 828/ Epodil 748 /Epodil 749 (80/10/10 weight ratio)

# Ancamine® 2875 Provides Excellent Adhesion to Concrete under Demanding Conditions



**bulk concrete failures (ASTM D7234)**

- Concrete surface profile (International Concrete Repair Institute) – CSP3
- ASTM D7234 Dolley pull test – DeFelsco Positest AT-A automatic adhesion tester
- Damp concrete - ~ 10% surface moisture (EnnoLogic Moisture Meter eH710T)

# Ancamine® 2875 Provides Excellent Intercoat Adhesion – Enabling Multiple Coats in One Day

Test	Time	Substrate condition	Epoxy Topcoat		Polyurea Topcoat	
			23 °C	10 °C	23 °C	10 °C
X-cut on metal	4 hour	--	5A		5A	
	6 hours	--		5A		5A
Concrete adhesion (psi)	4 hours	Dry concrete	850		735	
		Damp concrete	810		820	
	6 hours	Dry concrete		820		850
		Damp concrete		840		860

- Ancamine® 2875 enables fast return to services where 2 coats can be applied in one day.

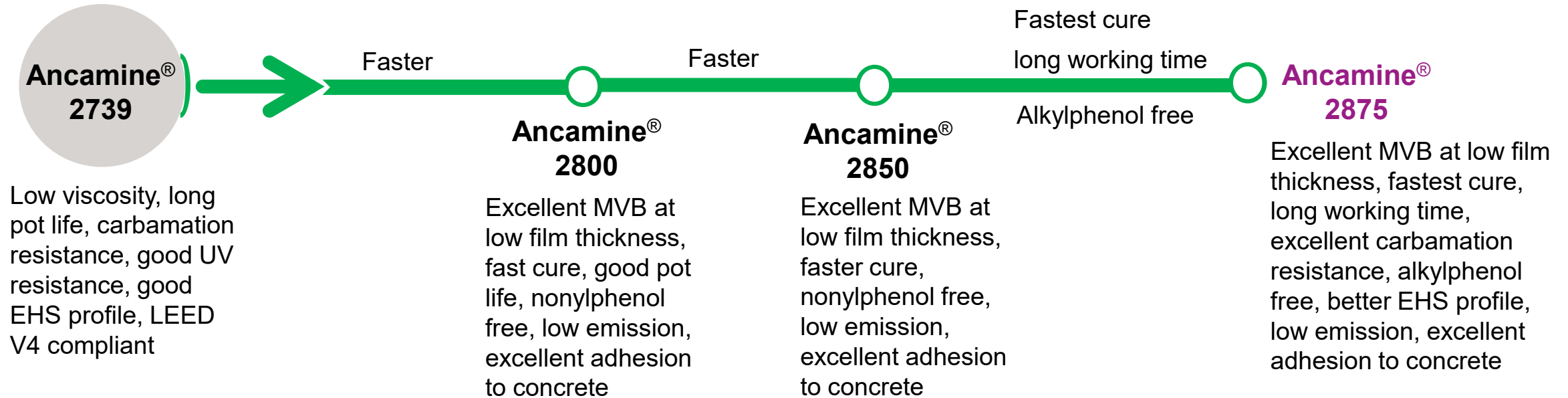
# Starting Point Formulations and ASTM E-96 Testing Results

Part A		Anc 2739	Anc 2800	Anc 2850	Anc 2850	Anc 2875	Anc 2875	Anc 2875
Epoxy resin	Bis A resin	80	80	80	90	80	80	90
Reactive Diluent	Epodil 748	10	10	10	10	10	10	10
Reactive Diluent	Epodil 749	10	10	10		10		
Reactive Diluent	Epodil 746						10	
Air Release					0.1 - 0.3			
Wetting Agent (optional)					0.1 - 0.3			
Part B								
Curing Agent		50	44	37	36.5	50	50	50
Total parts		150	144	137	136.5	150	150	150
<b>Mix ratio A/B</b>	By wt.	2	2.27	2.71	2.74	2	2	2
	By vol.	1.91	2.09	2.5	2.5	1.78	1.79	1.78
ASTM E-96 test (perms)	10 mils DFT		0.10	0.089	0.084			
	12 mils DFT					0.078		
	14 mils DFT		0.062					
	16 mils DFT	0.064	0.051	0.053	0.048	0.054	0.052	0.047

Additive recommendations:

- Air release: Tego Airex 990, Tego Airex 922
- Wetting agent: Tego Wet 260, Tego Wet 270, Tego Wet 238 (Dynol 980)

# Moisture Vapor Barrier Products Positioning



# Key Features of Ancamine® 2875

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- **Outstanding Moisture Vapor Barrier Properties:**
  - Compliant with **ASTM F3010** standards.
- **Fast Cure:**
  - Especially effective at **low temperatures**.
- **Long Pot Life:**
  - Provides extended working time.
- **Excellent Carbamation Resistance:**
  - Ensures durability in challenging environments.
- **Very Low Emissions:**
  - Environmentally friendly with minimal VOCs.
- **Enhanced EHS Profile:**
  - Free of **alkylphenol** and **benzyl alcohol**.
- **Superior Adhesion:**
  - Excellent bonding to concrete surfaces.



**EVONIK**

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