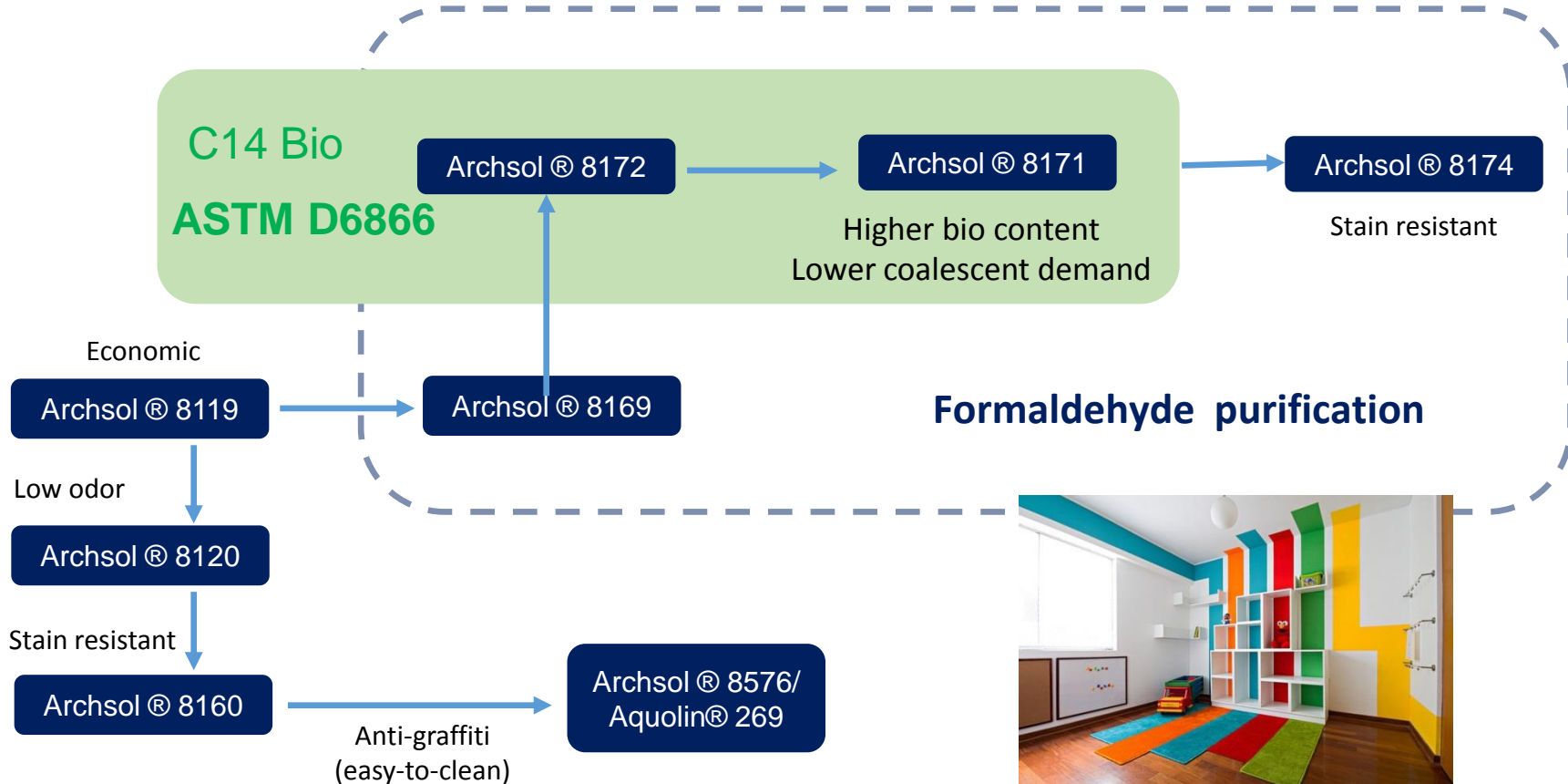




Architectural Interior Coating solutions

*Wanhua Chemical Group Co., Ltd.
Emerging Technology Business Group
Feb.,2021*

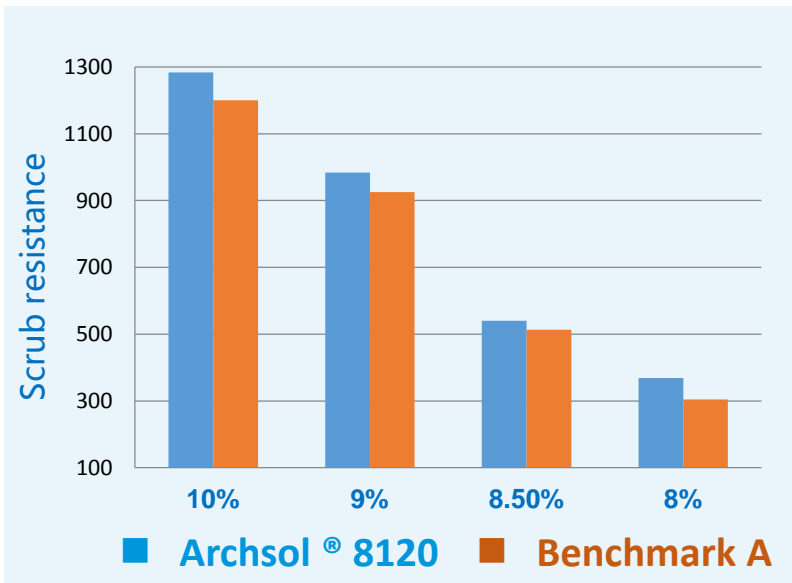


Archsol® 8120

1. High PVC (80%) system
2. Good scrub resistance
3. Low odor, low VOC



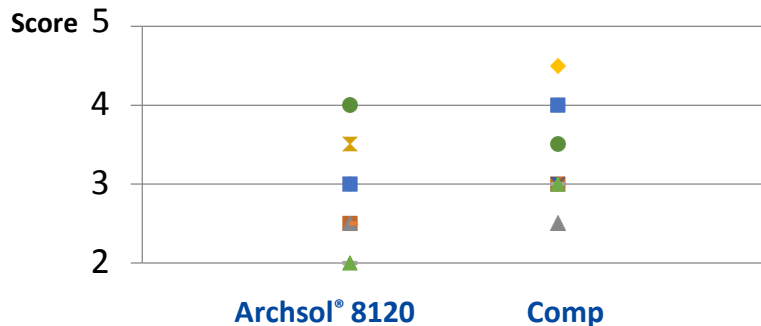
Scrub resistance at emulsion dosage 10%



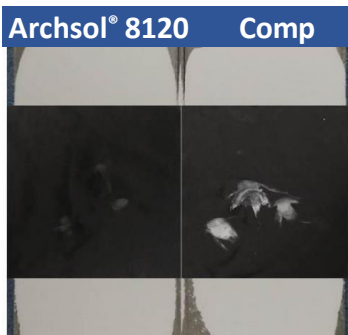
- Mild smell, no irritation

Odor scoring criteria : 0-5 , 0 is the best(odor free, or pleasant odor)

Test method: 15 persons from different positions



- Good early anti-chalking



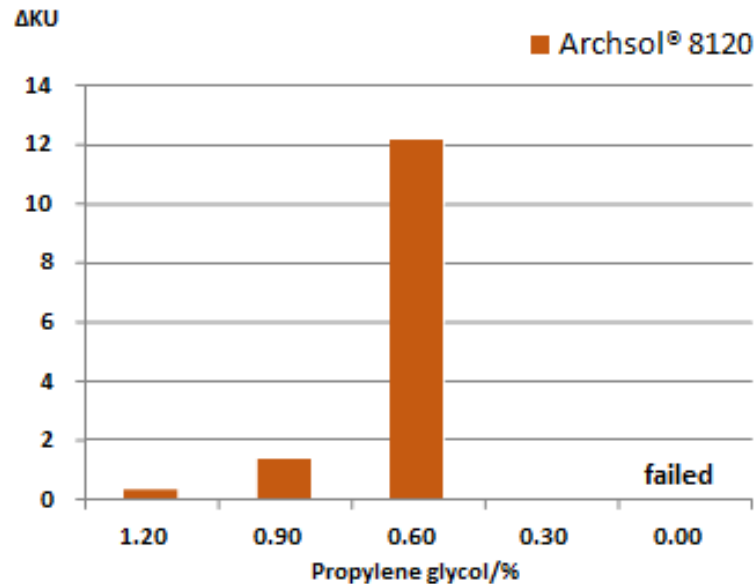
Test method : Substrate-Putty board; Brush primer, brush coating twice (dilute 30%),curing @ RT for 24h.

- Excellent freeze-thaw stability

Test method: $-7\text{ }^{\circ}\text{C}$, 18h; $3\text{ }^{\circ}\text{C}$, 6h; 3 cycles.



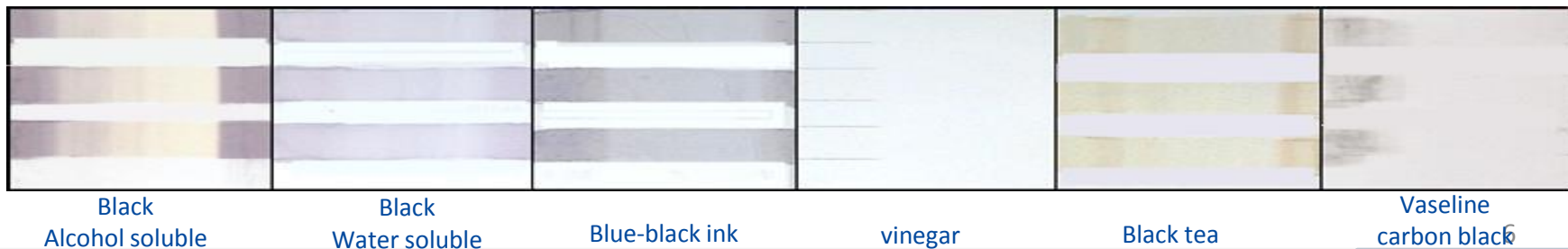
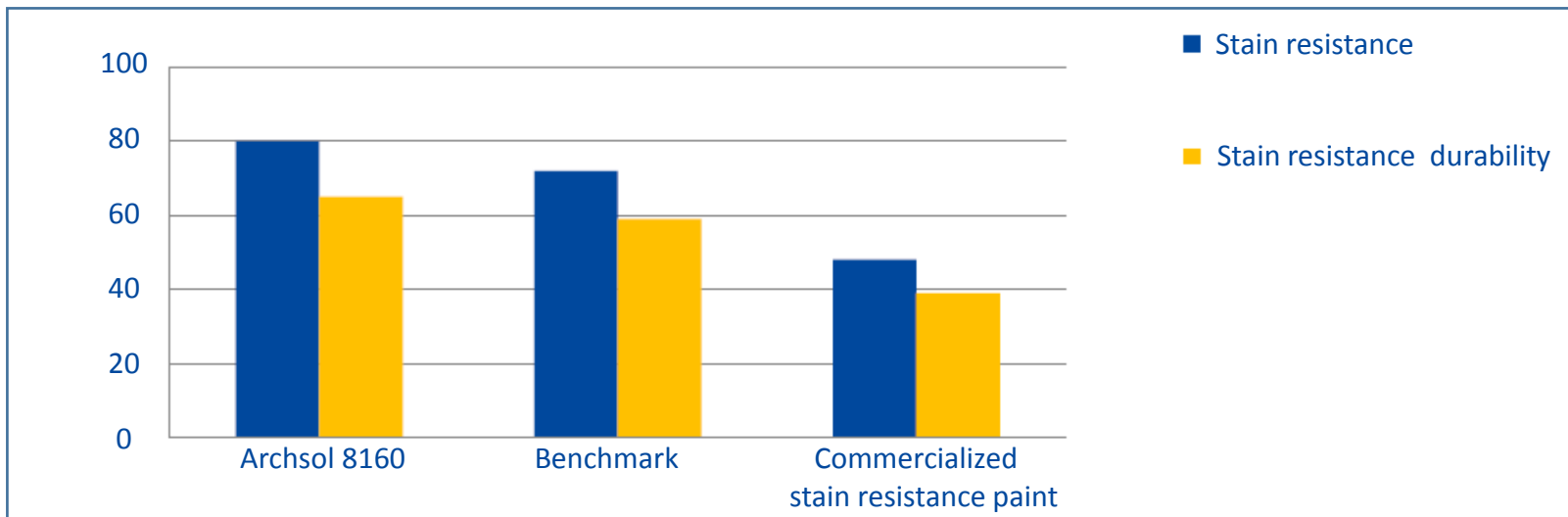
Propylene glycol -0.6%, the paint state after 3 cycles of freeze-thaw



Archsol 8160-low odor, stain resistance emulsion



* PVC substrates, 150um wet film, curing at STD(23°C, 50% RH) for 7days; Let the stain dwell on the paint for 2hrs, scrub for 200 times



Basic information of the formula	
Index	Value
PVC, %	56%
Stain resistance	73
Stain resistance durability	60
Scrub resistance, times	>10, 000
Hiding power	0.95
Alkali resistance	pass

- ✓ Recommended to use in PVC 45~60%, low odor stain resistance paint formula

Archsol 8160 interior wall paint recommended formula				
No.	Material	Function	Weight/g	Supplier
1	Water		180	
2	250HBR	cellulose	2	
3	AMP-95	pH adjuster	1.5	Dow
4	BD-109	wetting agent	2	Dow
5	Vesmodity C20	Dispersant	1.5	Wanhua
6	731A	Dispersant	5	Dow
7	LXE	Biocide	1	
8	NXZ	Defoamer	2	Nopco
9	R-996	TiO ₂ powder	190	
10	DB-80	Kaolin	200	
11	CC-800	Calcium	60	
12	Ultra-E		50	Dow
13	Archsol 8160	Emulsion	230	Wanhua
14	Coasol	coalescent	10	Dow
15	NXZ	Defoamer	1	
16	1,3-propanediol	Antifreezer	8	
17	Vesmodity U300	Thickener	5	Wanhua
18	Vesmodity U604	Thickener	5	Wanhua
19	Water	Diluent	44	
20	Parmetol DF-19	Fungicide	2	
Total			1000	

Anti-graffiti Paint



Kids Room



Hospital



Office



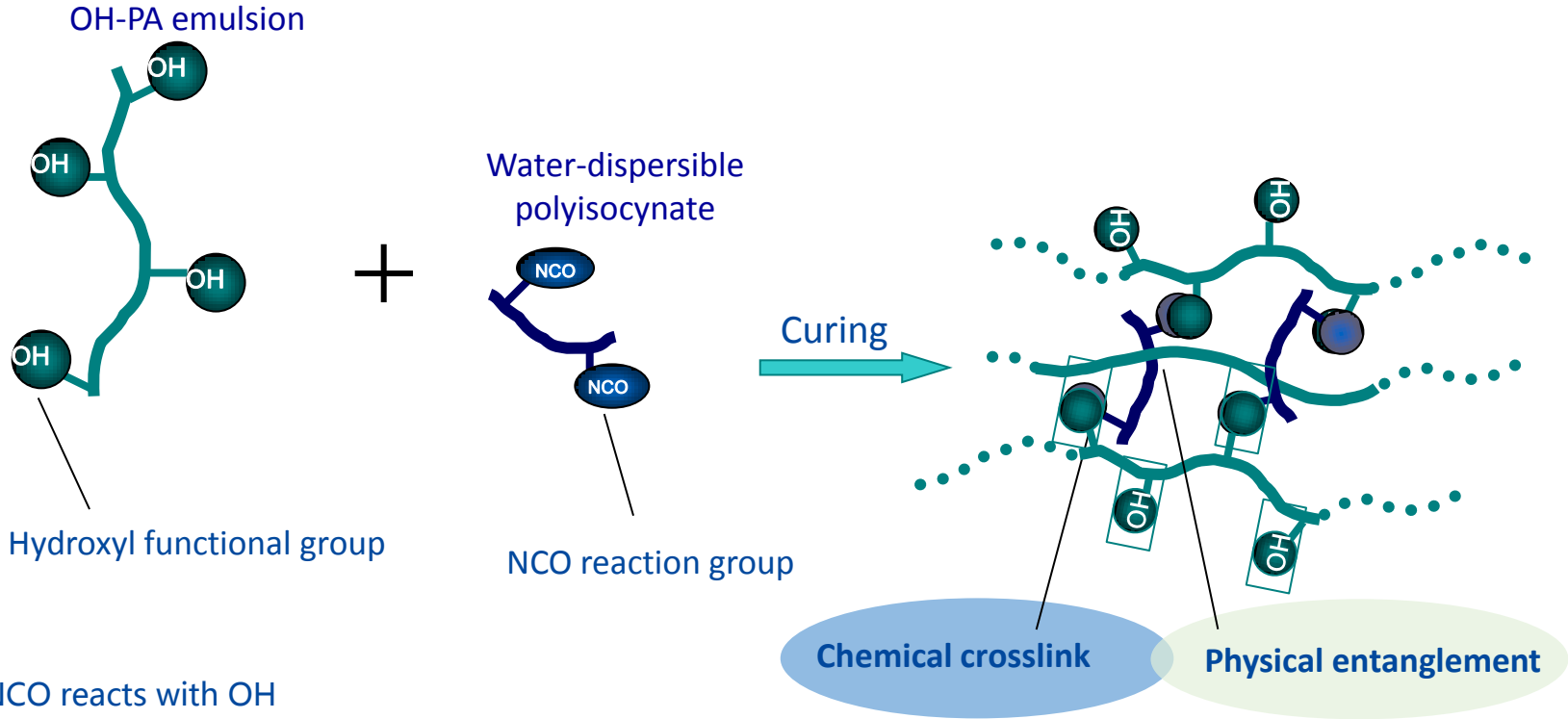
Kindergarten



Canteen



Public waiting room

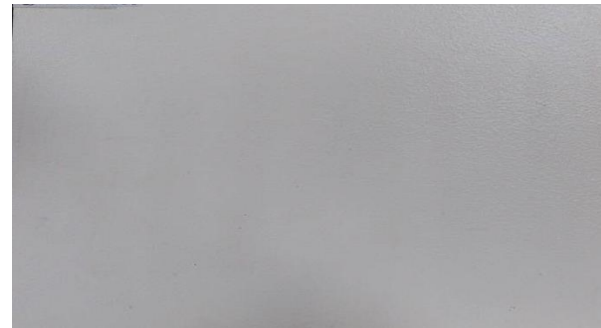
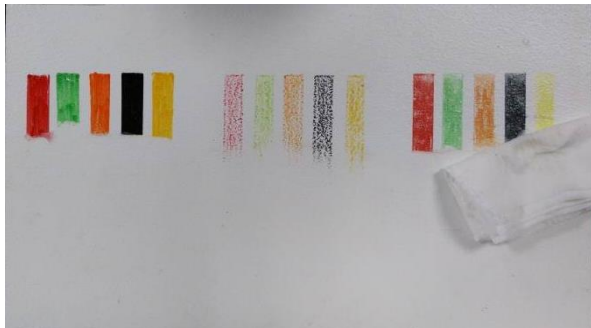
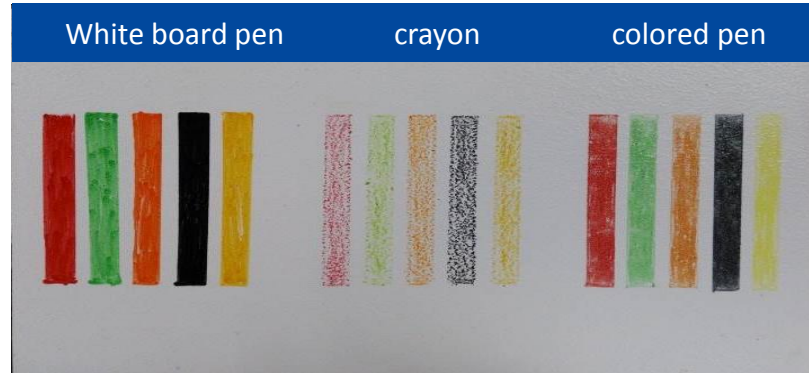


- ✓ NCO reacts with OH
- ✓ Highly crosslinked PU film can resist to graffiti & stain effectively

OH-PA resin	Appearance	Solids, %	pH	Brookfield Viscosity (cps,3#,30rpm,25℃)
Archsol®8576	Milky white liquid	48	3.5-5.5	<500
HDI hardener	Appearance	Solids,%	NCO/%	Brookfield Viscosity (cps,3#,30rpm,25℃)
Aquolin®268	Transparent to slightly yellowish liquid	100	20.0~21.0	4500-6500

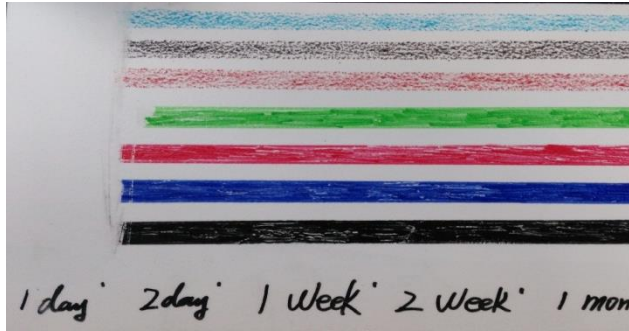
Excellent graffiti removable effect – clear coat

- ✓ WFT 120 μ m clear paint; Curing for 7days@25 $^{\circ}$ C/55%; dwell time 24hrs; Test the stain removability ;
- ✓ Stain type: white board marker; crayon; color pen
- ✓ Scrubbing medium: Water



Stain removable ability at different dwell time

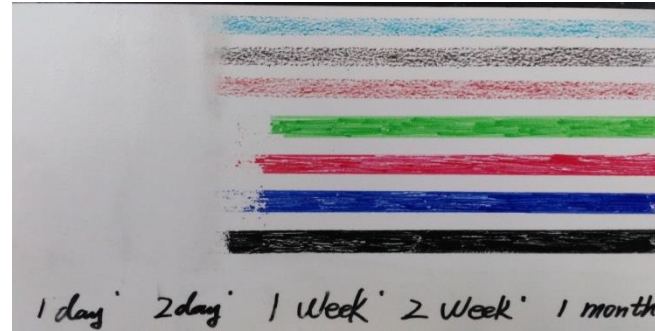
Roller coat, curing for 7days@25°C/55%, test the stain removability after different dwell time



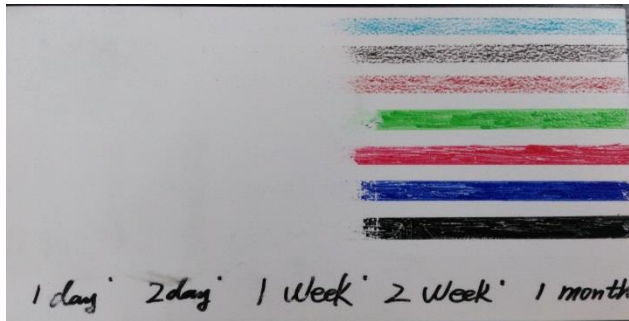
Crayon

White board
marker

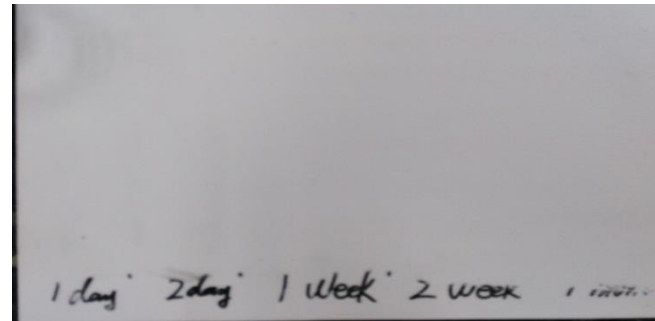
Dwell time 1d



Dwell time 2d



Dwell time 1 week



Dwell time 1 month

Recommended scrubbing medium: color pen(water), crayon(detergent solution), white board pen(water)

Recommended formula

Component A			
Materials	Type	Weight (g)	Supplier
Water		395	
Archsol® 8576	Resin	590	wanhua
AMP-95	pH adjuster	4	
Vesmody® A401	ASE thickener	3	wanhua
Vesmody® U300	HEUR thickener	2	wanhua
BYK 346	Wetting agent	4	BYK
Tego 825	defoamer	2	Tego
Total		1000	

Component B			
Materials	Type	Weight (g)	Supplier
Aquolin®268	hardener	250	wanhua
total		250	
Information			
Mix ratio (A:B)		100 : 25	
NCO/OH		3.0 : 1	
Open time (23°C)		3.5~4h	
pH		6.68	
Gloss 60' /85'		75/90	

FEATURES

- Low odor
- Excellent low temp film forming property
- Excellent scrub resistance
- Formaldehyde & toluene purification
- Biobased



Properties	Value
Appearance	Milky white
Solids, %	48±1
pH	7.5-9.5
MFFT, 'C	0
Viscosity, (mPa·s, Brookfield, LV, 6 2#, 30rpm, 25'C)	10-700

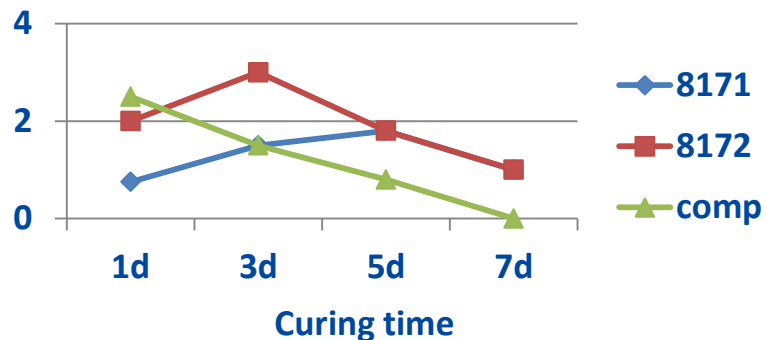
- Low odor

Odor scoring criteria : 0-5 , 0 is the best(odor free, or pleasant odor)

Method: 200μm , 15cm*10cm, store in 1L glass bottle, curing for 7d

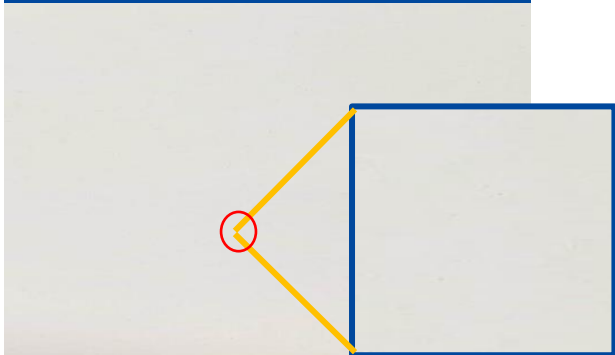


Score

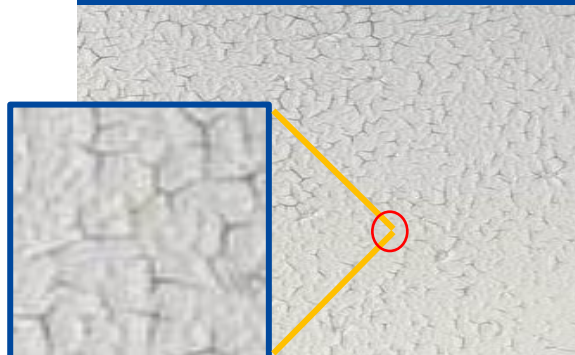


- Excellent film forming at low temp.

Archsol® 8171



Benchmark



- Excellent scrub resistance



- Excellent storage stability

Test condition	Δ KU (Stormer)	Δ cp (Brookfield,6#,60rpm)
Freeze thawing (-7°C, 3cycles)	1.4	17
50°C , 1 week	0.1	33

Archsol® 8171- recommended formula (high quality)



Material	Function	Weight /g	Supplier
Water		200	
250HBR	Cellulose	4	Ashland
Na ₂ CO ₃	pH adjuster	1	
Water		10	
BD-109	Wetting agent	2	Dow
Vesmodity® C20	Dispersant	5	Wanhua
NXZ	Defoamer	2	Nopco
R-996	Pigment	200	
CC-800	Filler	150	
DB-80	Filler	50	
DF-19	Preservative	1	
Vesmodity® H400	Opacity polymer	50	Wanhua
NXZ	Defoamer	1	Nopco
Archsol® 8171	Emulsion	300	Wanhua
Coasol 290	Coalescent	3	Dow
FT-100	Anti-freezing	5	
Vesmodity® U300	HEUR	5	Wanhua
Water		10	
LX 150	Biocide	1	Dow
total		1000	

Basic information	
PVC	43.93%
Viscosity	108KU
L/a/b	96.4/-0.3/3.4
Hiding power	0.966
Whiteness	90.6
Freeze thawing (-7°C, 3cycles) ΔKU	Pass , + 1.4KU



FEATURES

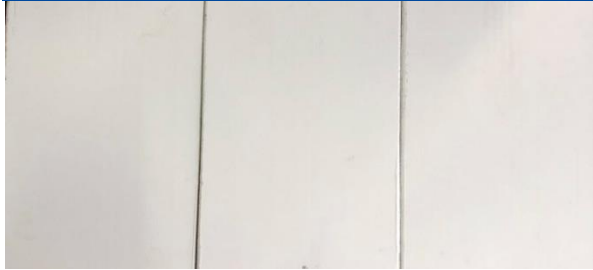
- Excellent formaldehyde & toluene purification
- Excellent scrub resistance
- Extra Low odor, low VOC, APEO free
- Excellent low temp film forming property
- Biobased



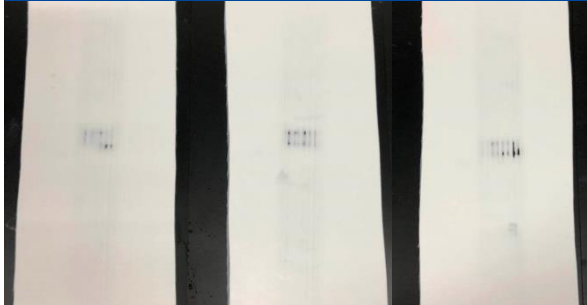
Properties	Value
Appearance	Milky white
Solids, %	48 ± 1
pH	7.5-9.5
MFFT, 'C	12
Viscosity, (mPa·s, Brookfield, LV, 6 2#, 30rpm, 25'C)	100-500

- Excellent scrub resistance

Chinese standard(40000 times)



ASTM D2486(660 times)



- Excellent formaldehyde purification

normal emulsion

other HCHO purification emulsion

Archsol® 8172



The lighter the color, the higher the efficiency of formaldehyde removal

Test report



Formaldehyde purification efficiency 87%

Formaldehyde purification durability 67%

Archsol® 8172- recommended formula (high quality)



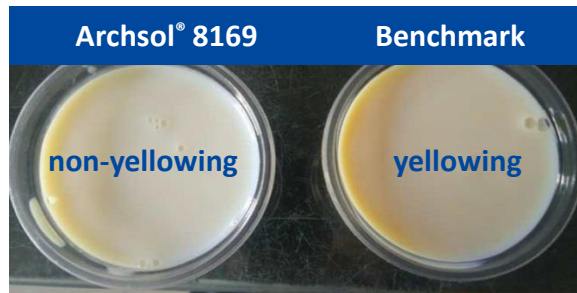
Material	Function	Weight /g	Supplier
Water		180	
250HBR	Cellulose	2.5	Ashland
10%NaOH	pH adjuster	1	
BD-109	Wetting agent	2	Dow
Vesmodity® C20	Dispersant	5	Wanhua
NXZ	Defoamer	2	Nopco
R-996	Pigment	230	
CC-800	Filler	50	
DB-80	Filler	150	
Diatomite		20	
DF-19	Preservative	1	
NXZ	Defoamer	1	Nopco
Archsol® 8172	Emulsion	300	Wanhua
Coasol 290	Coalescent	15	Dow
FT-100	Anti-freezing	5	
Vesmodity® U300	HEUR	5	Wanhua
Vesmodity® U604	HEUR	5	Wanhua
Water		25	
LX 150	Biocide	1	Dow
total		1000	

Basic information	
PVC	45%
Viscosity	105KU
L/a/b	96.1/-0.2/3.3
Hiding power	0.952
Whiteness	90.3
Freeze thawing (-7°C, 3cycles) ΔKU	Pass , + 4KU



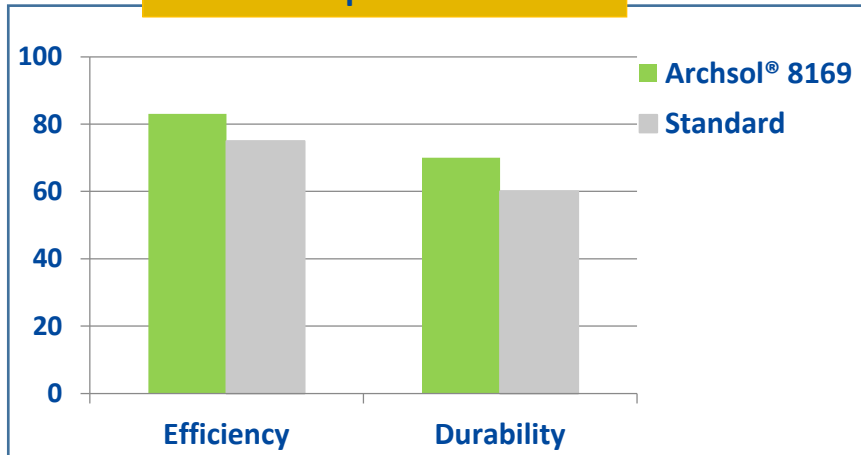
FEATURES

- High cost effective
- Good storage stability, non-yellowing
- Excellent scrub resistance
- Excellent early chalking resistance
- Formaldehyde & toluene purification

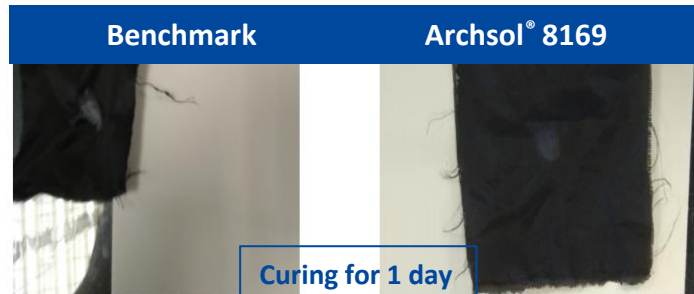


Properties	Value
Appearance	Milky white
Solids, %	48 ± 1
pH	7.0-9.0
MFFT, °C	2
Viscosity, (mPa·s, Brookfield, LV, 62#, 30rpm, 25°C)	0-1000

HCHO purification



Early chalking resistance



Archsol® 8169- recommended formula (economic)



Materials	Function	Weight/g	Supplier
Water		346	
250HBR	cellulose	5.5	Ashland
AMP-95	pH adjuster	0.5	Dow
BD-109	Wetting agent	2	Dow
Vesmody® C20	Dispersant	5	Wanhua
NXZ	Defoamer	2	Nopco
R-996	Pigment	90	
CC-800	Filler	140	
CC-1250	Filler	140	
DB-80	Filler	70	
Kaolin	Filler	50	
LX 150	Biocide	2	Dow
DF-19	Preservative	1	
NXZ	Defoamer	1	Nopco
Archsol® 8169	Emulsion	130	Wanhua
coasol 290	Coalescent	10	Dow
FT-100	Anti-freezer	5	
Total		1000	

Basic information	
PVC/%	72%
Viscosity/KU	105
Hiding power	0.95
Gloss 60°、85°	<5



- *Low odor, formaldehyde purification & stain resistance emulsion*

Features

- Excellent formaldehyde & toluene purification
- Excellent stain resistance
- Excellent scrub resistance
- Extra Low odor, low VOC



Properties	Value
Appearance	Milky white
Solids, %	48.5 ± 1
pH	7.0-9.0
MFFT, °C	9
Viscosity, (mPa·s, Brookfield, LV, 6 2#, 30rpm, 25°C)	< 1000

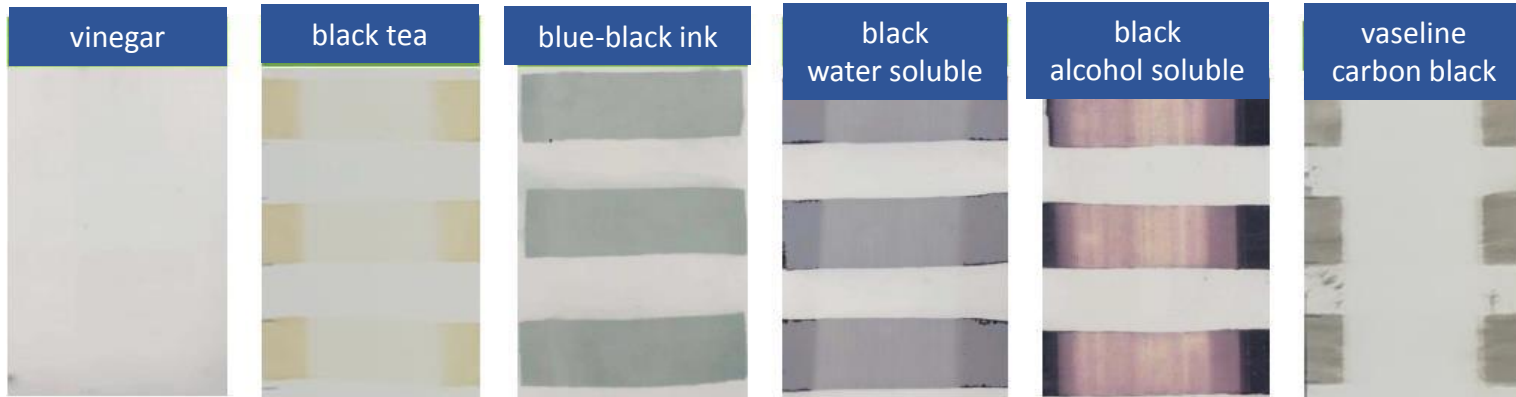
- *Excellent stain resistance*

Test method : Substrate: PVC;

Scrape, WFT=150μm, curing @ standard condition for 7d; Stain stays for 2hrs, scrub 200 times.

✓ Meet the standard HG/T 4756-2014 level I and GB/T 34676-2017 requirement

sample	vinegar	black tea	blue-black ink	black water soluble	black alcohol soluble	vaseline carbon black	total
Archsol® 8174	9	7	3	5	5	10	65



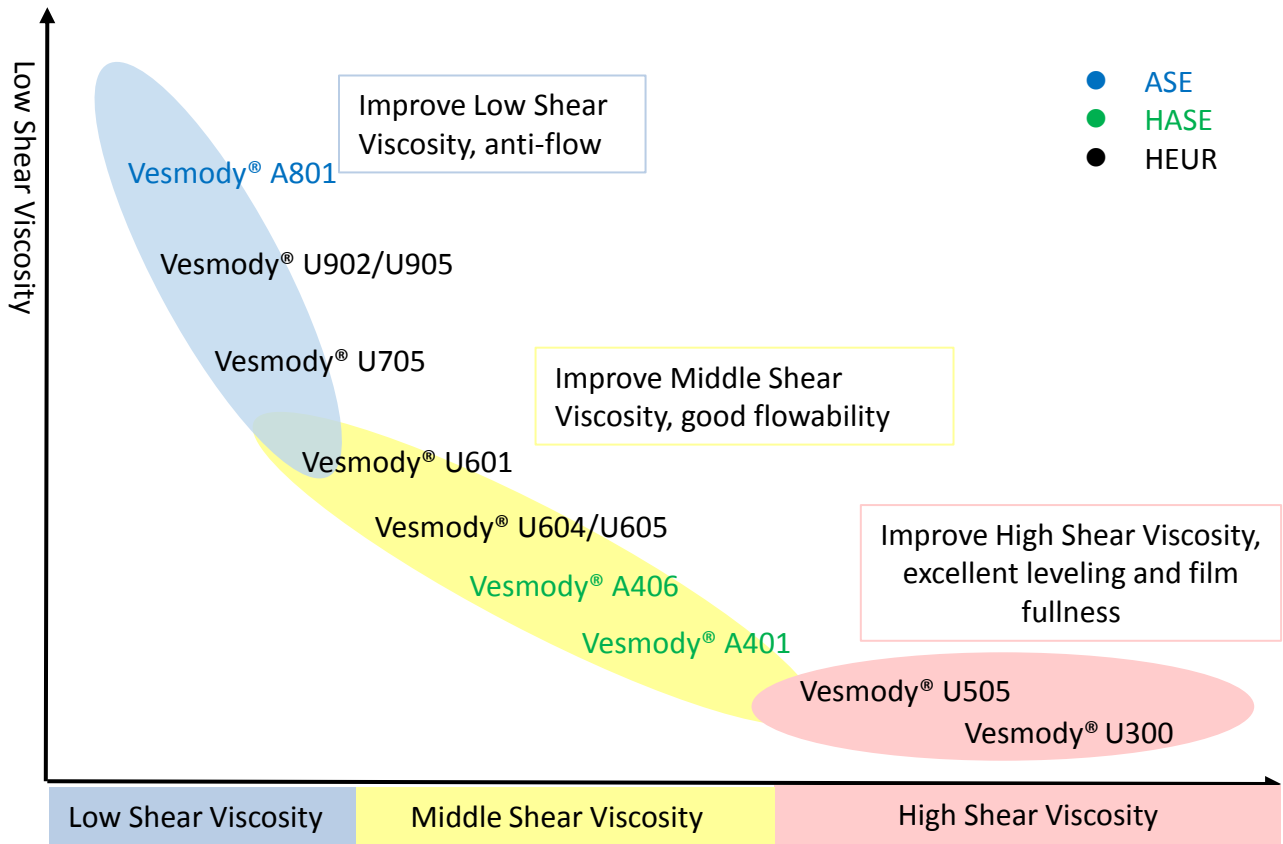
Archsol® 8174- recommended formula (High grade)



Materials	Function	Weight/g	Supplier
Water		230.7	/
250HBR	cellulose	3.3	Ashland
NaCO3	pH adjuster	0.5	/
BD-109	Wetting agent	2	Dow
Vesmodity® C30	Dispersant	10	Wanhua
NXZ	Defoamer	2.5	Nopco
R-996	Pigment	230	/
CC-800	Filler	50	/
CC-1500	Filler	90	/
Vesmodity® H400	Covering polymer	50	Wanhua
SN-154	Defoamer	2.5	Nopco
LX 150	Biocide	2	Dow
DF-19	Preservative	2	/
Archsol® 8174	Emulsion	300	Wanhua
Vesmodity®U300	Thickener	2	Wanhua
Vesmodity®U604	Thickener	2.5	Wanhua
coasol 290	Coalescent	15	Dow
FT-100	Anti-freezer	5	Rhodia
Total		1000	

Basic information	
Viscosity/KU	120
Scrub resistance(CS)	>20000
Scrub resistance(AS)	>200
Stain resistance(CS)	65(Level I)
Hiding power	0.95
Gloss 60°、85°	<5







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