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Resene
Automotive & Light Industrial

Altex
Yacht & Boat Paint

carboline
Coatings - Linings - Fireproofing

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Construction Systems

Concrete Walls & Floors

Overview of specifying coating systems for concrete walls and floors

- What type of surfaces?
- Where are they?
- How will they be used?
- Their overall lifecycle



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Concrete Walls



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What? Where? When? How?

Concrete Walls

Wall types

- Precast / tilt slab
- Blocks
- Off-form
- Bagged/rendered



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Concrete Walls

Precast / tiltslab



- Predominantly large scale, commercial, public projects
- Inherently weatherproof
- Very smooth, but appearance/chemistry can vary
- Form oils and release agents must be removed



Concrete Walls

Concrete blocks



- More likely to be residential, exterior or interior
- Rough texture gives plenty of adhesion – good and bad
- Not inherently weatherproof
- More prone to moisture ingress



Concrete Walls

Off-form and rendered

- Often decorative in their own right
- Coatings can highlight or obscure features
- Sharp edges/lumps can stress films
- Can be hard to keep clean



Concrete Walls

Location and Environment

- Exterior / interior
- Sheltered / exposed
- Coastal, alpine, windy
- Urban, high traffic



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Concrete Walls

Intended use of the area

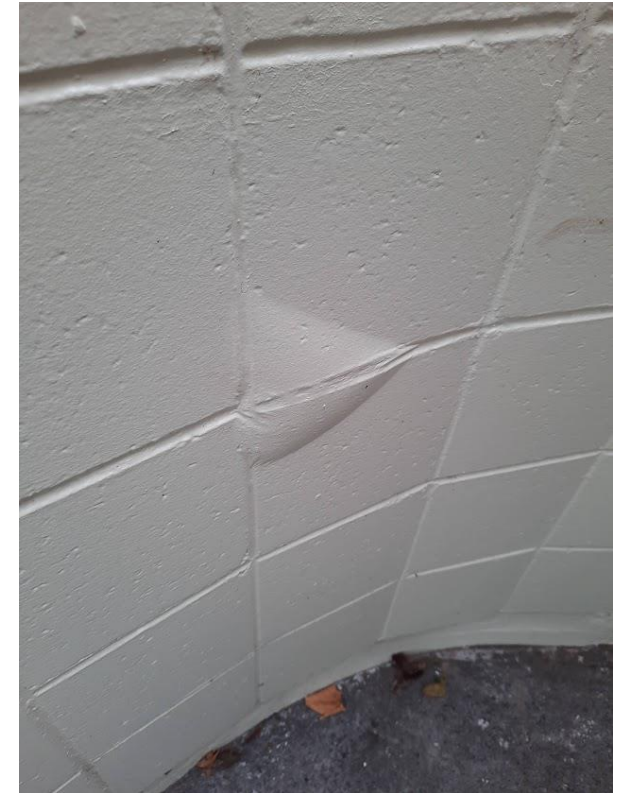
- Private, commercial, public
- Aesthetic vs functional or both
- Ease and regularity of maintenance
- Expectations



Concrete Walls

Condition of the substrate

- Existing issues or new ones to avoid?
- Water ingress, efflorescence
- Graffiti
- Fading, blistering, damage, patchy?



Concrete Walls

Pros & cons of paints vs clear finishes

- + Paint creates opaque film covering all visual irregularities
- - Paint film vulnerable to adhesion failure, splitting, colour change
- + Clear finish retains concrete look, won't fade
- - Clear can't hide anything, less porous, risk of moisture issues
- New wash type finishes give see-through colour



Concrete Walls

Single pack paints



- Single pack products are ready to go from the pack, generally shorter recoat and dry times, low VOCs
- X-200 for weathertightness, Lumbersider is a versatile mid thickness top coat, Aquashield provides self-cleaning mineral flat
- Concrete Seal 3in1 for adhesion to tilt slab



Concrete Walls

Two pack paints

- Epoxies require more care in mixing and management around induction, pot life, curing and recoat times, but offer more performance. Fumes can be an issue as well
- Aquapoxy waterborne for medium/heavy duty, low fumes
- Uracryl 400 or 800 series urethanes for ultimate abrasion defence



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Concrete Walls

Single pack clear finishes

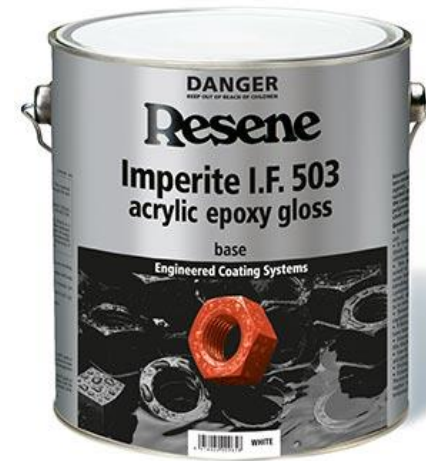
- Single pack products are ready to go from the pack, generally shorter recoat and dry times.
- Concrete Clear for light abrasion protection, cleaning
- Solventborne Aquapel for invisible water repellency



Concrete Walls

Two pack clear finishes

- Hard wearing coats for abrasion resistance. Same mixing, timing and fume considerations as paint versions
- Uracryl 400 series for best protection
- Imperite for best adhesion to smooth or honed
- Uracryl GraffitiShield for tagging clean-up



Concrete Walls

Anti-graffiti coatings



- Clear highly abrasion resistant layer
- Film forming or sacrificial
- Work best on smooth substrates
- More gloss preferred
- Will be ruined with over painting

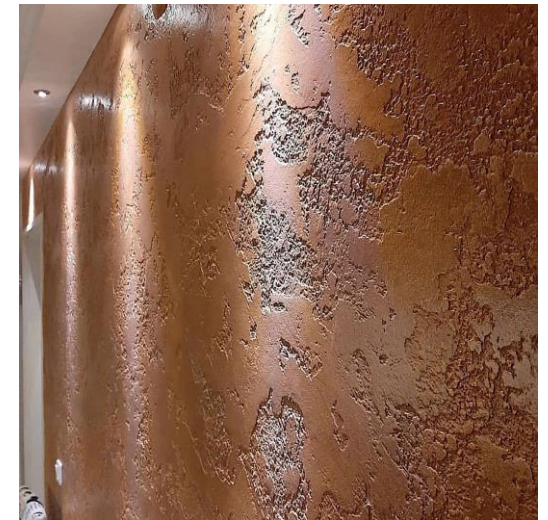


Concrete Walls

Custom/special colours



- Colour matching to PMS, RGB and physical samples - always kept on file
- Dark and bright hues need extra care, Cool Colour needed for infra-red?
- Metallics need spraying which can make repairs difficult
- Sample any special finishes, on site, with painters



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Concrete Floors



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Proper preparation prevents poor performance

Concrete Floors

Condition of the substrate



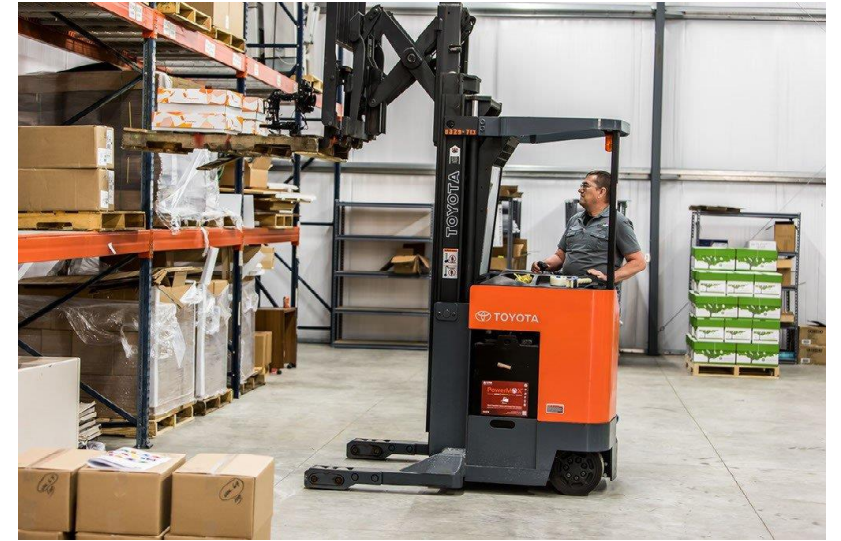
- New or existing
- Texture, falls, drains
- Contamination, damage, cracks
- Dampness



Concrete Floors

Requirements of the area & floor

- Private, public, commercial
- Traffic type and volume
- Decorative vs functional
- Turnaround time



Concrete Floors

Safety and cleaning requirements

- Coloured zones or markings
- Anti-slip
- Anti-static
- Hygienic, steam or chemical cleaning



Concrete Floors

Single pack vs 2 pack epoxy, solid colour paint vs clear

- + Paint gives even appearance, able to include safety features
- - Paint film vulnerable to abrasion and noticeable adhesion failure
- + Clear finish retains concrete look, won't fade
- - Clear can't hide moisture issues, difficult to anti slip



Concrete Floors

Single pack

- Single pack products are ready to use, generally shorter recoat and dry times, but maybe also durability
- Walk On is a tough acrylic, but only for foot traffic
- Non-Skid Deck & Path has built in anti-slip, but foot traffic only and limited colour range



Concrete Floors

Two pack epoxy/urethanes

- Epoxies require more care in mixing and management but offer more performance. Fumes can be an issue as well
- Aquapoxy gives a tough, easy to recoat finish for any traffic
- Uracryl 400 series is solventborne, but allows almost any colour



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Concrete Floors

Specialist flooring options

- Flowcrete industrial options may be needed
- Very high film builds for abrasion/impact
- Multiple application and performance options
- Often cost effective over a longer lifecycle



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Concrete Floors

Preparation and application



- Clean and dry, black tape tested
- Ground, not acid etched, looking for 180 grit profile
- Warm enough for painting and drying
- Allowed full curing time before use, hot tyres etc



Lifecycle

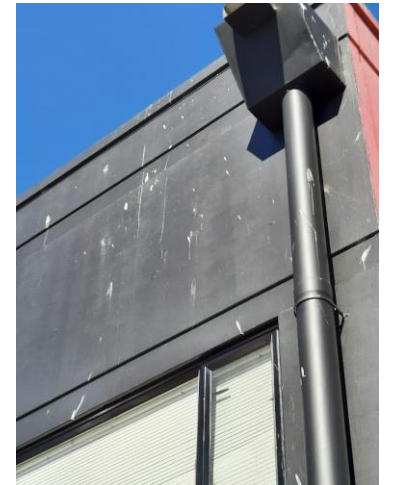
What does the future hold?



Lifecycle

Coating issues

- Dirty – exhaust, windblown dirt, fungi, bird flightpaths..
- Adhesion – Blistering, splitting, peeling
- Colour changes
- Gloss changes



Lifecycle

Maintenance requirements

- Inspection
- Cleaning
- Preventative maintenance
- Recoating



Lifecycle

Recoating

- 10-12 year cycle at best
- Access restrictions – space, traffic, time of year
- Partial vs full repaints
- Compatibility to existing coatings



Summary

- Identify existing or potential risk factors in the substrate
- Accurately scope use and lifecycle expected
- Prioritize preparation and testing
- If in doubt check alternatives, particularly for floors





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