Surface Finishes for Concrete

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Specifications

• Item 427 (mostly)
• Item 740 (antigraffiti)
• Item 428? (not really)
• Item 424 may be a problem!
• Yes, there will be (specbook) changes!
Basic Categories

• Coatings
  – Concrete paint, opaque sealer (not ‘stain’)
    adhesive grout, 742h, epoxy paint, antigraffiti

• “Special Surface Finishes
  – Blasted, Rub, Off-the-Form, Form Liner, Exposed Aggregate*

• Often combined

*Has a sealer, either acrylic or antigraffiti
Coatings In General

• Wide variety of colors available
  – But some colors (blue, red, green, purple) and especially vivid colors fade faster
  – White, grey and “earthy” tones more durable

• Requires careful surface preparation: no curing membrane or loose material.

• Will require more maintenance over the life of the structure (except proper use of antigraffiti)
Coating Choices

- Adhesive Grout
- Antigraffiti (Item 740)
- Concrete Paint (waterborne)
- Opaque Sealer (solventborne)
- 742h
- Epoxy (Type X)
Item 740: Antigraffiti

• It’s not magic. Just makes removal easier.

• 3 types:
  – Type I (Crap. Going away.)
  – Type II (Permanent, Solvent Cleanable)
    • Typically polyurethane, good for smooth-ish surfaces
    • Usually cleaned with spray solvent & rag
  – Type III (Permanent, Water Cleanable)
    • Typically a rubbery silicone type material, smooth or rough
    • Usually cleaned with pressure washer set to LOW
    • Self-repairable, softer than Type II
    • Clear can have dirt/stain issues
Antigraffiti Guidelines

• Only use it where you need it. It’s not cheap.
• Even with clear, surface will **not** look like bare concrete (will look darker and/or “wet”)
• Coordinate with the local maintenance office!
  – Do they have preferences?
  – Will you supply them matching Type III for touchup?
• Clear can be used to topcoat “fancy” colored paint, but may be difficult to inspect. Reported to decrease fading.
Concrete Paint & Opaque Sealer

• Semi-durable with proper color and application
• Contractors often have strong preferences (both ways)
• Actual performance seems similar
• Plan on periodic maintenance replacement.
• Currently (waterborne) paint is TxDOT formula only, Sealer is solventborne. May evaluate waterborne Sealer in the future.
742(h)

- Old solventborne TxDOT formula, grey ONLY.
- Resin slowly turns grey in sunlight, darn close to default grey: FS 595C, color 35630
- Works on concrete, or as a steel topcoat.
- Nearly indefinite shelf life
- Generally not a good choice today
Type X Epoxy

- Rugged
  - Chemical resistant
  - Water resistant
  - Abrasion resistant (hard, tough)
- Susceptible to sunlight
  - Chalking
- Not very aesthetic
  - Somewhat gloppy/thick
  - No color choice
Adhesive Grout

- Cement, acrylic polymer and sand. Needs damper surface than other coatings.
- Thickness sensitive. Tends to disbond if applied too thick (targeting ~1/8”)
- Probably the most durable of the coating choices, if applied correctly.
- Color from grey to white.
General Aesthetics question:

• Unless there is pedestrian traffic, do we really need to paint light grey concrete with a light grey paint?
• Can the aesthetic vision be met with a more durable choice?
• Side note: Painted CTB shows impact damage and black bumper/tire marks more distinctly.
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STOP

MICROSULATE®
“Special Surface Finishes”

• Limited Color choices
  – Concrete can be tinted, or use white cement
  – Aggregate color influence

• Variety of texture choices

• Very durable

• Limited maintenance requirements
Special Surface Choices

- Blast
- Rub
- Off-the-form
- Form liner
- Exposed aggregate
Blast

- LIGHT etching of the surface
- Remove weak material only
- “Uniformly” textured
- “No” exposed aggregate, gouging or spalling
Rub

• Classic TxDOT surface finish (1938 specbook!)
• Remove forms, immediately being rubbing concrete with carborundum stone to make a paste
• Uniform, durable surface
• Somewhat labor intensive
Off-the-form

• Simple & Cheap
• Looks irregular close up
• Common in low-visibility areas
• Durable
Form Liner

- More expensive than off-the-form
- Reusable liners, can spread the cost over many panels
- Durable
- Can be very aesthetic – lots of options
- Can be also painted or antigraffitied