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# RUSSTECHNICAL NOTES

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## VALUE-ADDED CONCRETE

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Value-added concrete means the differentiation of your concrete from your competitor's. It means providing something *different* and providing it *better* than the competition. Added profit can only be earned if your price equals the value you provide. Some value-added ideas would be:

- Your unique concrete mix design performance
- Your service and ability to solve problems
- Your ability to prove or show reduced in-place costs

Use an assortment of new technology admixtures to produce value-added concrete mix performance for which you would receive a premium selling price. Sell your concrete based on the *value* it provides to your customer not just the price.

### NORMAL MIX DESIGNS:

Differentiate your normal mixes with a higher quality water reducer such as **FINISHEASE-NC**, making your mix look richer and finish better than your competitor's. Often ready mix producers will use approximately 5-6 ozs. /cwt. of **FINISHEASE-NC** as a standard dose and reduce Portland cement by 20 lbs./yard. This will offset the cost of the **FINISHEASE-NC**, possibly lower your cost per yard for cement and admixture, maintain compressive strength, and produce a better looking and finishing concrete mix.

### CUSTOMIZED MIX DESIGNS:

Create and name special mix designs with extra value-added to each mix for a specific application. Below are some examples:

- *Interior flat work mix*: Designed with low or no air for easy surface closure; a 7 inch slump with a mid-range such as **FINISHEASE-NC** for workability and finishability, and accelerated slightly for faster set because placements are typically inside shaded from the sun.
- *Premium wall mix*: Designed to flow easily with high air content; a 9 to 10 inch slump with **SUPERFLO 2000RM** to maintain compressive strengths, and over-sanded for little or no honeycombing for smooth formed surfaces.
- *Exterior flatwork mix*: Designed with adequate air for durability against scaling; a 7 inch slump with mid-range such as **FINISHEASE-NC** for adequate compressive strength, workability, and finishability.
- *Freeze-resistant concrete mix*: Designed with **LCNC-166** to allow sub-freezing concrete placements without heated enclosures or risk of concrete freezing. Large labor savings for finisher because setting times will be 3 to 5 hours faster than conventional mix designs. When a project needs to be completed sooner in cold weather, penalties for time and interest expense per day can be greatly reduced with this type of mix design.
- *Extra fast setting concrete mix*: Designed with a combination of accelerators to produce very fast setting set times in above freezing temperatures. A suggestion would be "30/10 Mix" that would guarantee set time will be 10 hours or less at ambient temperature of 30 F.

- *Low shrinkage concrete mix:* Designed with **SRA-157**, shrinkage-reducing admixture to produce a mix that will not shrink in volume nearly as much as normal mixes; consequently reducing or eliminating cracking and large volume changes. Mixes can also be designed for reduced shrinkage by changing materials and proportions.
- *Fast setting mid-range mix:* Designed with a fast setting mid-range water reducer such as **FLOWSET 2000NC**. This creates a mix that doesn't require an accelerator and allows the use of fly ash or slag cement while maintaining normal set times.
- *Self-compacting concrete mix:* Designed with a polycarboxylate super plasticizer such as **SUPERFLO 2000RM** to produce *fluid* concrete (24 to 26 inch slump spread). This mix has incredible flow, excellent compressive strength, requires little or no vibration, and results in finished surfaces with improved aesthetics, particularly on walls or any intricate formwork.
- *High durability concrete mix:* Designed with silica fume such as **RUSSTECH CSF**, polycarboxylate super plasticizer such as **SUPERFLO 2000RM**, and **RUSSTECH RCI** corrosion inhibitor to produce a concrete that adds many service years, particularly in severe environments.
- *High early and ultimate strength mix:* Designed to meet high early and ultimate compressive strength requirements by utilizing a polycarboxylate superplasticizer such as **SUPERFLO 2000RM**.
- *Water repellant concrete mix:* Designed to incorporate an integral water repellant admixture such as **RUSSTECH WATERPEL** that provides a long-lasting resistance to water penetration by reacting to form a very effective water repellant network throughout the concrete that prevents moisture and de-icing salts from penetrating the concrete.
- *Flowable fill mix:* Designed to incorporate special air entrainment such as **RSA-10** to produce approximately 30% air content. Six yards of flowable fill can be batched to produce nine cubic yards of volume. This will lower the cost per yard of flowable fill, lower compressive strength making it more excavatable, and increase flowability. **\*\*This system is *not* recommended in situations where excess water needs to come out of the flowable fill quickly such as road cuts where pavement needs to be applied immediately.**
- *Low cracking concrete mix system:* Designed to reduce and possibly eliminate plastic shrinkage cracking by incorporating a low shrinkage mix design with lower water contents, fiber reinforcement, higher coarse to fine aggregate ratio, proper jointing plan, and curing requirements.

## **TECHNICAL ASSISTANCE:**

Contact your local RussTech technical service representative for complete assistance with the development of any value-added concrete mix designs to ensure proper concrete performance and added value.



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 "We Add The Difference"