



FINISHING NEWS

What is the “right” time to start finishing ?

Industry Calendar:

- IHSA Concrete Finishing Safety Committee: Oct. 9 2014
- Construct Canada: Dec. 3-5 2014
- World of Concrete: Feb 2-6 2015



Do you have an interesting finishing photos to share ?
Submit to: news@cflra.ca

When a delamination problem develops in a new floor, it is common for others to blame cement finishers for starting their work too early (incorrectly), a term called “premature finishing”. The concern is that if the surface of fresh concrete is compacted too early by floating, then concrete mix water may get trapped inside and result in surface delaminations.

The American Concrete Institute states that initial floating should not commence until:
1) the concrete has taken on an initial set,
2) there is no visible bleed water on the surface, and 3) the depth of a footprint in the surface is approximately 6 mm (1/4”) deep or less. No surface finishing operations should be performed unless these condi-

tions are met.

Beware of premature surface drying caused by the wind - use evaporation films or fog misting to keep the concrete surface moist throughout finishing. Recent laboratory testing has also shown concrete mixes bleed less in quantity in cold temperatures as well.

Many finishers believe that a single float machine should be used initially to break up the surface before pan floating. It is also suggested that pan floating should commence when a footprint is approximately 3mm deep (<1/8”) or less.

Do you have a question or idea for a future topic ? E-mail us at: news@cflra.ca

New “GUL” Cement in Ontario

Inside this issue:

NEW: 2014 Version of CSA A23.1	2
IHSA Safety Committee	2
College of Trades – Trade Board	2
Concrete Delivery Tickets	3
Greetings	3
Entrapped vs Entrained Air	4
Cold temperatures	4
Directory	4

There is a relatively new cement in Ontario called “GUL” cement. This is a little different from our normal General Use (GU) cement as it includes up to 15% portland cement replacement (instead of 5%). This General Use Limestone (GUL) cement has an immediate impact on reducing greenhouse gas emissions created by portland cement manufacturing—which is a good step forward to reduce our impact on the environment.

We are only aware of one completed project to date using a 35 MPa GUL concrete

mix design and there were no reported difficulties with screeding or finishing.

NOTE: the type of cement can be identified on the concrete mix design and concrete truck delivery tickets (check those tickets carefully!).

CSA A23.1-2014 defines “Finishability” as:

“the subjective property of a concrete that allows leveling, smoothing, consolidating, and otherwise treating surfaces of fresh or recently placed concrete to produce desired appearance and service.”

New Canadian Concrete Standard Published !



CSA A23.1-2014

The new 2014 version of CSA A23.1 “Concrete Materials & methods of concrete construction” has just been published and will come into effect across Canada in 2015. This new concrete standard defines a number of mandatory requirements in the effort to produce

good quality finished concrete work with less problems.

Our standardized concrete floor mix (N-CF) has been set up as a new classification and requires a maximum 0.55 water:cement ratio AND a minimum 25 MPa compressive strength (both

requirements must be met) for “interior floors with a trowel finish”.

Stay tuned for more information ...

[Link to CSA store](#)

Safety is always first !

Our [IHSA](#) Concrete Finishing Safety Committee is finalizing a new Health & Safety manual for concrete floor construction (will be available online at the end of 2014).

This includes extensive standardized resources for both new and experienced cement finishers to help avoid problems and enhance our safety performance in the field.

Recent safety information from WSIB indicates that our

safety performance is poor—we need to do more to reduce workplace incidents.

Everyone is reminded to report safety concerns, hazards or unsafe practices to their supervisor immediately (do not delay) !

No job is more important than doing your work safely—never endanger yourself or others.



College of Trades Concrete Finisher Trade Board

Our new “Concrete/Cement Finisher” Trade Board held its first meeting in August at the Ontario College of Trades.

Trade Boards are designed to manage apprenticeship in an effort to enhance the safety,

skills and knowledge of journeymen concrete finishers.

The Trade Board will be considering skills achievement, in-school knowledge requirements and the national Red-Seal requirements for journeyman status.

Trade Board minutes will be

available online [HERE](#)

Trade Board members include:

Employee Reps:

- Mr. Tony Mollica (vice-chair)
- Mr. Alexandar Aranibar

Employer Reps:

- Mr. Jim Woods
- Mr. Geoff Kinney (chair)

Signing of concrete delivery tickets

General contractors superintendents often direct our workers to sign concrete delivery tickets when the concrete arrives on site. Often our workers sign concrete delivery tickets without knowing if the correct concrete has been delivered or not. This is very risky business and has caused numerous problems in the past.

If you are going to sign a delivery ticket, you must be able to identify that the correct concrete mix is arriving at the job site. Each delivery ticket must be checked carefully as it arrives. There are great concerns about being blamed when we sign a ticket for the wrong concrete purchased by someone else.

Don't take chances, if you are not sure, then do not sign anything! We do not want any responsibility for incorrect, inadequate or incompatible concrete materials being supplied by someone else. If you see this happening then contact your supervisor immediately.

It is the responsibility of the purchaser of the concrete materials to perform a number of important activities including:

1. Purchasing and ordering the correct concrete mix that meets the requirements of the specification as per CSA A23.1.
2. Ensure the delivery rate of the concrete to the site.

3. Ordering the concrete with at least 24 hours notice.
4. Ordering final balance loads while maintaining a constant rate of delivery.
5. Providing a signaller for the safe flow of vehicular traffic on site.
6. The acceptance/rejection of the concrete mix as delivered to the site (testing for air etc.).
7. The costs admixtures including winter heat premiums, ice, accelerators, plasticizers etc.
8. Allowances for the provision of plastic protection of the concrete.

Do not be the cause of a problem—know what the right concrete mix is each day and make sure it is correct before signing for it or placing it.

CSA A23.1-2009 concrete floor mix requirements :

“Interior concrete floors with a steel trowelled finish shall be designed to a maximum 0.55 w/cm and a minimum compressive strength of 25 MPa at 28 d, as well as designed for placing methods finishability, set, and serviceability, as required for intended service.”

A note from the editor

Greetings Cement Finishers !

Ontario has a great reputation as having some of the best Concrete Finishers in North America—something that we should all be very proud of! Today however we are increasingly faced with uncertainty in concrete materials and a new generation of cement finishers with differing skill sets, knowledge & work needs. These are challenges and opportunities that we face together. This newsletter is designed to pass along important information about current issues in concrete finishing with the sincere hope that it will be helpful to you. We encourage you to submit your suggestions or concerns so that we can build upon the proud tradition of quality workmanship that has lead here today (e-mail: news@cflra.ca).

Please be safe out there and always remember: **when in doubt, ask for assistance !**

Yours truly,

Geoff Kinney Jr.



Air-Entrapment vs Air-Entrainment

When concrete materials are mixed inside the concrete truck, the rotation causes air to be naturally mixed into the concrete and is known as “entrapped air”. Air-Entrainment is a special chemical admixture that creates millions of very small bubbles in the concrete to improve freeze-thaw resistance—Air entrainment is required for all exterior concrete mixes.

Air entrained concrete must not be used on concrete surfaces that receive a dense trowel finish or surface delaminations can occur (the entrapped air content must be less than 3%). Site testing during concrete placements can identify the air content accurately.

It is recommended that air testing be performed at the beginning of each pour in addition to casting compressive strength cylinders as required by CSA A23.1.

Notify your supervisor if the plastic air content exceeds 3% on any interior floor !



When we working with air entrained concrete it is important not to over-work the concrete surface. Repeated floating can densify and reduce the freeze-thaw durability of the concrete.

Always handle air entrained concrete carefully to protect its freeze-thaw properties !

Cold Temperature Problems are Coming !

Summer has left us once again and it's time to start breaking out warm clothing for colder temperatures. It is also time to remind ourselves of the concerns that we will face on winter job sites:

- Beware the dangers of carbon monoxide (CO) from all sources of combustion including heaters, vehicles and finishing equipment ([see work safe bulletin](#)). Minimize sources of exhaust fumes on pour days and ensure adequate fresh air ventilation at all times. Remember that it is illegal to use open flame heaters to heat interior work spaces under [Ontario's Construction Regulations](#). [ref: 49(5)].
- Ensure adequate lighting to get too and from work areas safely.
- CSA A23.1-2009 requires that concrete materials be protected so that its temperature does not fall below 10°C. This is to avoid problems caused by abnormal setting. Recent laboratory testing suggests that concrete bleeds less in quantity and over a longer duration when the temperature falls below 10°C.
- Catalytic converters (scrubbers) used on some construction equipment increase the amount of carbon dioxide (CO2) in the air. This can lead to carbonation of the plastic cement paste—producing a chalky surface that is soft and easily scratched. It has been reported that these surfaces are described as sticky under a hand trowel. Minimize fumes and ensure adequate fresh air ventilation !

Industry Phone Directory

Cement Finishing Labour Relations Association: 289-837-1627
Concrete Floor Contractors Association: 905-582-9825
Ontario Formwork Association: 416-630-7912
Labourer's Union: 289-291-3678
Operative Plasterers & Cement Mason's Union: 905-856-9000
Infrastructure Health & Safety Association: 905-625-0100
Ministry of Labour (Ontario):	... 1-877-202-0008

Visit us online at www.cflra.ca !

