



Concrete Mix Data Submission Form

Usage Guide

1. This Mix Data Submission Form is intended to help clarify concrete performance issues between the Owner, Contractor and Concrete Supplier as outlined in CSA A23.1-04, Table 5 - Alternative (1) Performance (page 119). It is not intended to remove or reduce any responsibilities of the parties involved in the project.
2. All Concrete and materials supplied will conform to CSA A23.1-04
3. All references to CSA Standards A23.1 and A23.2 refer to the most recent edition of the standard.
4. SCM's refers to supplementary cementing materials. Generally SCMs include fly ash, ground granulated blast furnace slag and silica fume.
5. SCMs – When the form indicates that SCMs are used, but the blanks for neither HVSCM 1 nor HVSCM 2 are answered “yes”, the conclusion inferred is that the SCM content in the mixture is less than 30 percent of the total cementing material content (35 percent for GGBFS). Where HVSCM 2 is indicated then the SCM content is greater than 30 percent (35 percent for GGBFS) of the total cementing materials content, but less than 40 percent (45 percent for GGBFS). Where HVSCM 1 is indicated then the SCM content is greater than 40 percent (45 percent for GGBFS) of the total cementing materials content. (*defined in CSA A23.1-04, Pg. 177*)
6. Initial Set Time – Reference to set times is relative to normal Portland cement concrete produced and maintained at 20°C. The initial in place temperature conditions will have a direct effect on the initial set time for all concretes and in particular concretes falling into HVSCM1 and HVSCM2 classes. When the initial set time must be known, and is critical for construction purposes, testing of the project mixtures should be performed.
7. Ability to Finish Concrete Mixtures – By reviewing the data submitted, there are some conclusions that may be drawn regarding the ability to finish a mixture. Concretes containing SCMs are typically more workable, however, the set times may be extended and precautions arising from these extended times may need to be taken.
 - a. Concretes with water to cementing materials ratios at 0.45 or greater will not typically have abnormal finishing issues unless the concrete is in the HVSCM1 or HVSCM2 category.
 - b. Water to cementing materials ratios at 0.40 or less should be given consideration for finishing. Water contents in these mixtures are reduced and water reducers play a larger role in producing workable slumps which result in reduced water of convenience. When there are extended concrete transport times and ambient temperatures are above 25°C, retarding admixtures may be used to maintain water contents and ensure the specified compressive strengths are achieved. Reduced bleeding is expected in these lower water to cementing materials ratio mixtures.
 - c. Water to cementitious ratios at 0.38 or less will most likely require chemical admixtures to achieve slump while maintaining the water content. Concretes at these ratios are also more likely to include higher contents of SCMs. Concretes with these water to cementing materials ratio will, in all likelihood, be void of bleed water and are more likely to experience finishing problems associated with non-bleeding mixtures. Special precautions may be required depending on the construction specifications.
 - d. To allow proper finishing and wear resistance, Type N concrete intended for use in an industrial floor with a trowelled surface exposed to wear shall have a minimum cementing materials content of 265 kg/m³.
8. The naming practice for hydraulic cement is summarized below; the cement types used previously are shown in brackets.
 - a. Type GU, General Use (Type 10 Normal)
 - b. Type HE, High Early Strength (Type 30)
 - c. Type MH (Type 20) or LH (Type 40), Moderate and Low Heat of Hydration, respectively
 - d. Type MS (Type 20) or HS (Type 50), Moderate and High Sulphate Resistance, respectively

This is a model form jointly prepared by the Canadian Construction Association and Canadian Ready-Mixed Concrete Association. Feedback is welcomed and should be directed to these two associations. October 2005

CONCRETE MIX DATA SUBMISSION FORM

PROJECT:		DATE:	
LOCATION:		SUBMITTED BY:	
CONTRACTOR:		CONTACT:	
	MIX NUMBER		
SPECIFICATIONS ITEMS as per CSA 23.1-04	Application		
	Structural Requirements		
	CSA Exposure Class		
	Minimum Specified Strength		
	Age (days) for Specified Strength		
	Maximum W/CM Ratio		
	Maximum Aggregate Size		
	Durability Requirements		
	Exposure to Sulphate Attack		
	Alkali Aggregate Reactivity Addressed (Y/N)		
	Aggressive Chemical/Waste/Other		
	Other		
	Architectural Requirements		
	Color (Y/N)		
Other			
MATERIALS	Materials		
	Cement Type		
	SCM Usage (Y/N)		
	HVSCM 1 or HVSCM 2		
	Fly Ash (Y/N)		
	Fly Ash Class		
	Silica Fume (Y/N)		
	Ground Granulated Blast Furnace Slag (GGBFS) (Y/N)		
Other			
CONTRACTOR ITEMS	Plastic Properties Measured at Point of Discharge from the Mixer Truck		
	Slump Range		
	Plastic Air Range		
	Method of Placement		
	Initial Set		
	Delayed, Slightly Delayed, Normal, Slightly Accelerated, Accelerated		
	Specialty Information		
	Early Strength Criteria		
	Fibres (Y/N)		
	Fibres Type		
Fibres Dosage			
Other			
SUBMITTAL ITEMS	Attachments:		
	Other:		

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