STATE OF VERMONT
AGENCY OF TRANSPORTATION
MATERIAL AND RESEARCH SECTION - STRUCTURAL CONCRETE UNIT

STRUCTURAL CONCRETE MIX DESIGN SUBMISSION

Agency Use Only	
Mix ID	HP14-B-050
Mix Design #	050
Approved by	jwild
Approved Date	5/14/2014
Spec Book Year	2011

Concrete class: HPC B
Additional Description:
Ready Mix Supplier: CARROLL CONCRETE - BRATTLEBORO, VT
Designed By: Scott Jordan
Design strength: 3500 PSI
Design by dry weight or saturated surface dry: SSD

Mix designs are valid for a 12 month period from date of approval or unless there is a change in material, material property or design parameter.

Cement: 701.02	Source: / Brand Name:			Specific Gravity			lb/cy	0.00 cf
Cement Type III: 701.04	Source: / Brand Name:			Specific Gravity			lb/cy	0.00 cf
Blended Cement: 701.06	Source: LAFARGE - TERCEM - MONTREAL, EAST PLANT / Brand Name:			Specific Gravity	3.020	564	lb/cy	2.99 cf
Cement with Slag: 701.07	Source: / Brand Name:			Specific Gravity			lb/cy	0.00 cf
Pozzolan: 725.03(a)	Source: / Brand Name:			Specific Gravity			lb/cy	0.00 cf
Fly Ash: 725.03(a)	Source: / Brand Name:			Specific Gravity			lb/cy	0.00 cf
Silica Fume: 725.03(b)	Source: / Brand Name:			Specific Gravity			lb/cy	0.00 cf
Slag: 725.03(c)	Source: / Brand Name:			Specific Gravity			lb/cy	0.00 cf
Water					29	242	lb/cy	3.88 cf
Air Content Target					7.0 %			1.89 cf
Coarse Aggregate 3/8" 704.02A	Source:	Absorption		Specific Gravity			lb/cy	0.00 cf
Coarse Aggregate 3/4" 704.02B	Source: COLD RIVER MATERIALS PIT - N WALPOLE, NH	Absorption	0.80	Specific Gravity	2.880	1176	lb/cy	6.54 cf
Coarse Aggregate 1 1/2" 704.02C	Source: LANE CONST INC PIT - NORTHFIELD, MA	Absorption	0.80	Specific Gravity	2.670	633	lb/cy	3.80 cf
Fine Aggregate: 704.01	Source: LANE CONST INC PIT - NORTHFIELD, MA	Absorption	1.20	Specific Gravity / Fineness Modulus	2.700 / 2.84	1331	lb/cy	7.90 cf
Air Entrainment Admixture 725.02(b)	Source: MASTER BUILDERS INC - MESQUITE, TX / Brand Name: MasterAir AE 200/MicroAir			Specific Gravity		1.5	oz/cy	
Retarder Admixture: 725.02(c)	Source: MASTER BUILDERS INC - MESQUITE, TX / Brand Name: MasterSet R 100/Pozzolith 100XR			Specific Gravity		1	oz/cwt	
High Range Water Reducer Admixture: 725.02(h)	Source: MASTER BUILDERS INC - MESQUITE, TX / Brand Name: MasterGlenium 7500			Specific Gravity		4	oz/cwt	
Other Admixtures:	Source: / Brand Name:			Specific Gravity				0.00 cf
	Source: / Brand Name:			Specific Gravity				0.00 cf
	Source: / Brand Name:			Specific Gravity				0.00 cf
				TOTAL	47.270	3946	lb	27.00 cf

Maximum Water/Cementitious Ratio: 0.49
Maximum Water (gal/cy): 33.1
Slump Min/Max (inch): 4.0 min — 7.0 max
Air Content Min/Max (%): 5.5 min — 8.5 max
Design Unit Wt. (lb/cf): 146.15

Approved by Jason Wild VAOT Composite Materials Engineer 5/14/14. Slump will be ignored for jobs with provisions to eliminate the slump requirement

Notes:

2011 specification, 2014 construction season, Air content does not comply with ACI recommendations, 5-13-14