

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

STRUCTURAL CONCRETE MIX DESIGN SUBMISSION

Concrete class: HPC Rapid Set  
 Additional Description \_\_\_\_\_  
 Ready Mix Supplier: CARROLL CONCRETE - CHARLESTOWN, NH  
 Designed By: Scott Jordan  
 Design strength: 7000 PSI  
 Design by dry weight or saturated surface dry: SSD

Agency Use Only	
Mix ID	HP00-et-0
Mix Design #	
Approved by	
Approved Date	
Spec Book Year	2011

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.

<b>Cement:</b>		Specific Gravity	_____	_____ lb/cy	_____ 0.00 cf
701.02	Source: _____ Brand Name: _____				
<b>Cement Type III:</b>		Specific Gravity	_____	_____ lb/cy	_____ 0.00 cf
701.04	Source: _____ Brand Name: _____				
<b>Blended Cement:</b>		Specific Gravity	<u>3.020</u>	<u>900</u> lb/cy	<u>4.78</u> cf
701.06	Source: <u>LAFARGE - TERCEM - MONTREAL, EAST PLANT</u> Brand Name: _____				
<b>Cement with Slag:</b>		Specific Gravity	_____	_____ lb/cy	_____ 0.00 cf
701.07	Source: _____ Brand Name: _____				
<b>Pozzolan:</b>		Specific Gravity	_____	_____ lb/cy	_____ 0.00 cf
725.03(a)	Source: _____ Brand Name: _____				
<b>Fly Ash:</b>		Specific Gravity	_____	_____ lb/cy	_____ 0.00 cf
725.03(a)	Source: _____ Brand Name: _____				
<b>Silica Fume:</b>		Specific Gravity	_____	_____ lb/cy	_____ 0.00 cf
725.03(b)	Source: _____ Brand Name: _____				
<b>Slag:</b>		Specific Gravity	_____	_____ lb/cy	_____ 0.00 cf
725.03(c)	Source: _____ Brand Name: _____				
<b>Water</b>			<u>32</u> gals	<u>267</u> lb/cy	<u>4.28</u> cf
<b>Air Content Target</b>			<u>7.0</u> %		<u>1.89</u> cf
<b>Coarse Aggregate 3/8"</b>	Absorption _____	Specific Gravity	_____	_____ lb/cy	_____ 0.00 cf
704.02A	Source: _____				
<b>Coarse Aggregate 3/4"</b>	Absorption <u>0.80</u>	Specific Gravity	<u>2.830</u>	<u>1560</u> lb/cy	<u>8.83</u> cf
704.02B	Source: <u>COLD RIVER MATERIALS PIT - N WALPOLE, NH</u>				
<b>Coarse Aggregate 1 1/2"</b>	Absorption _____	Specific Gravity	_____	_____ lb/cy	_____ 0.00 cf
704.02C	Source: _____				
<b>Fine Aggregate:</b>	Absorption <u>1.00</u>	Specific Gravity	<u>2.660</u>	<u>1170</u> lb/cy	<u>7.05</u> cf
704.01	Source: <u>NEWPORT SAND &amp; GRAVEL - NEWPORT, NH</u>	Fineness Modulus	<u>2.69</u>		
<b>Air Entrainment Admixture</b>		Specific Gravity	_____	<u>8</u> oz/cy	
725.02(b)	Source: <u>MASTER BUILDERS INC - MESQUITE, TX</u> Brand Name: <u>MicroAir</u>				
<b>Retarder Admixture:</b>		Specific Gravity	_____	_____ oz/cwt	
725.02(c)	Source: _____ Brand Name: _____				
<b>High Range Water Reducer Admixture:</b>		Specific Gravity	_____	<u>4</u> oz/cwt	
725.02(h)	Source: <u>MASTER BUILDERS INC - MESQUITE, TX</u> Brand Name: <u>Glenium 7500</u>				
<b>Other Admixtures:</b>		Specific Gravity	<u>1.010</u>	<u>1.25</u> gal/cy	<u>0.17</u> cf
	Source: _____ Brand Name: <u>BASF, MasterLIFE SRA20</u>				
	Source: _____ Brand Name: <u>BASF, Rheotec Z60</u>	Specific Gravity	_____	<u>3</u> oz/cwt	<u>0.00</u> cf
	Source: _____ Brand Name: _____	Specific Gravity	_____		<u>0.00</u> cf
	Source: _____ Brand Name: _____				
		<b>TOTAL</b>	<u>48.520</u>	<u>3908</u> lb	<u>27.00</u> cf

*Approved by James Walsh, VDOT  
Composite Materials Engineer 3/14/14  
for Cavendish ER BRF 0146(13)*

Maximum Water/Cementitious Ratio	_____		
Maximum Water (gal/cy)	<u>0.0</u>		
Slump Min/Max (inch)	<u>4.0</u> min	<u>10.0</u> max	
Air Content Min/Max (%)	<u>5.5</u> min	<u>8.5</u> max	
Design Unit Wt. (lb/cf)	<u>144.73</u>		

Notes: