

## CONCRETE MIX DESIGN

# 5000 psi

SCC

SDI MIX CODE: P50TER

**DATE:** September 14, 2012      **PLANT:** Burlington, VT

**PROJECT:** General DOT Precast - 2012

**FINE AGGREGATE:**      Source: Hinesburg Sand & Gravel  
 ASTM C 33      Specific Gravity: 2.67 (Abs.: 1.15%)  
    Fineness Modulus: 2.9

**COARSE AGGREGATE:**      Source: S.D. Ireland, Brownell Quarry  
 ASTM C 33      Specific Gravity: 2.74 (Abs.: 0.37%)  
    Description: 3/4" 100% Crushed Stone (Size #67)

**CEMENT:**      Ternary Blend Cement; Lefarge North America Lakes and Seaway Re  
    St. Constant, Quebec (22% Slag, 5% Silica Fume, 73% Type II Cement)  
    (Sp.Gvty: 2.98)

**ADMIXTURES:**      Water Reducer (HRWR): Glenium 7500; BASF Admixtures  
    Air Entraining Agent: Darex II AEA; Grace Concrete Chemicals

**CONSTITUENTS (LBS. /YD<sup>3</sup>)**

		Abs.Vol.
Coarse Aggregate (SSD)	1700	9.94
Fine Aggregate (SSD)	1096	6.58
Cement	705	3.91
Water	300	4.81
Air Content (Entrained)	6.5%	1.76
<b>Total</b>	<b>3801</b>	<b>27.00ft<sup>3</sup></b>

**MIX PROPERTIES/ REQUIREMENTS**

Water Cement Ratios: 0.41 (0.44)  
 Entrained Air Content: 5.0 % – 9.0%  
 Dry Unit Weight: 140.8 ± pcf  
 Spread: 21" to 27"  
 Concrete Temperatures: 50 – 85°F

**\* ADMIXTURE(S) DOSEAGE (OZ. /YD<sup>3</sup>)**

Glenium 7500 (HRWR)	46 - 53
Darex II AEA	2.8

**TYPICAL STRENGTH GAIN**

18-HOURS	1980 psi
3-DAYS	3760 psi
7-DAYS	4790 psi
28-DAYS	6020 psi

\*Admixture dosage rates are subject to change.