

## REPORT OF CONCRETE FIELD & LABORATORY TESTING

**CLIENT:** DN Tanks  
 11 Teal Road  
 Wakefield, MA 01880  
 Attn: Mr. Jake Sreca

**PROJECT:** Middletown CT  
 224 Talcott Ridge Drive  
 Middletown, CT

**DATE:** September 14, 2020

**REPORT #:** 20-07-161-005

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**General Location:** Exterior Wall and Dome Panels

**Date Cast:** 8/17/2020  
**Field Rep:** Stephen Sturges  
**Contractor:** DN Tanks  
**Concrete Supplier:** CT Ready Mix  
**Concrete Admixtures:** Master Air 200, MasterGlenium 7500  
**Air Temp:** 80 °F  
**Weather:** Sunny  
**Nominal Size of Aggr:** 3/4"  
**Date Received by Lab:** 8/18/2020

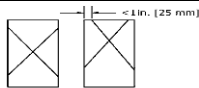
**FIELD TEST RESULTS (Sampled in accordance with ASTM C172)**

TICKET #	*# CYL	SLUMP TEST (in) (ASTM C143)	AIR CONTENT (%) (ASTM C231)	TEMPERATURE (°F) (ASTM C1064)	ELAPSED TIME		
					Batch	Final	Total (Min)
1008207	6	4.50"	4.50%	80 °F	9:13 AM	10:20 AM	67

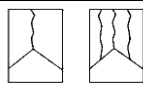
*\*Specimens molded/conditioned in accordance with ASTM C31/ASTM C1231*

**LABORATORY COMPRESSIVE STRENGTH TESTING (ASTM C39)**

Date of Test	Cylinder ID	Age	Cure	Avg Measured Diameter (in)	Cross Sectional (in <sup>2</sup> )	PSI	Max. Load	Break Type
08/21/20	1A	4	LAB	6.00"	28.26"	3,490	98,720	5
08/24/20	1B	7	LAB	6.00"	28.26"	3,800	107,270	3
08/24/20	1C	7	LAB	6.00"	28.26"	3,820	107,820	3
09/14/20	1D	28	LAB	6.00"	28.26"	4,800	135,590	2
09/14/20	1E	28	LAB	6.00"	28.26"	4,810	135,990	2
	1F		HOLD					



**Type 1**  
Reasonably well-formed cones on both ends, less than 1 in. (25 mm) of cracking through caps



**Type 2**  
Well-formed cone on one end, vertical cracks running through caps, no well-defined cone on other end



**Type 3**  
Columnar vertical cracking through both ends, no well-formed cones



**Type 4**  
Diagonal fracture with no cracking through ends; tap with hammer to distinguish from Type 1



**Type 5**  
Side fractures at top or bottom (occur commonly with unbonded caps)



**Type 6**  
Similar to Type 5 but end of cylinder is pointed

<b>Specific Sample Location:</b>	Wall Panel WA-1		
<b>Yards Placed:</b>	37.0	<b>yards<sup>3</sup></b>	<b>Design Strength:</b> 4000 psi
<b>Density:</b>			
<b>Remarks:</b>			

**Reviewed By:** Darlene Daniels

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**Date Cast:** 8/17/2020  
**Field Rep:** Stephen Sturges  
**Contractor:** DN Tanks  
**Concrete Supplier:** CT Ready Mix  
**Concrete Admixtures:** Master Air 200, MasterGlenium 7500  
**Air Temp:** 80 °F  
**Weather:** Sunny  
**Nominal Size of Aggr:** 3/4"  
**Date Received by Lab:** 8/18/2020

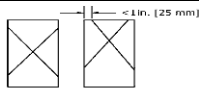
**FIELD TEST RESULTS (Sampled in accordance with ASTM C172)**

TICKET #	*# CYL	SLUMP TEST (in) (ASTM C143)	AIR CONTENT (%) (ASTM C231)	TEMPERATURE (°F) (ASTM C1064)	ELAPSED TIME		
					Batch	Final	Total (Min)
1008209	6	4.50"	6.60%	80 °F	10:15 AM	12:20 PM	125

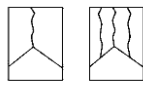
*\*Specimens molded/conditioned in accordance with ASTM C31/ASTM C1231*

**LABORATORY COMPRESSIVE STRENGTH TESTING (ASTM C39)**

Date of Test	Cylinder ID	Age	Cure	Avg Measured Diameter (in)	Cross Sectional (in <sup>2</sup> )	PSI	Max. Load	Break Type
08/21/20	2A	4	LAB	6.00"	28.26"	2,880	81,430	5
08/24/20	2B	7	LAB	6.00"	28.26"	3,050	86,090	2
08/24/20	2C	7	LAB	6.00"	28.26"	3,080	86,950	2
09/14/20	2D	28	LAB	6.00"	28.26"	4,210	118,940	2
09/14/20	2E	28	LAB	6.00"	28.26"	4,580	129,470	2
	2F		HOLD					



**Type 1**  
Reasonably well-formed cones on both ends, less than 1 in. (25 mm) of cracking through caps



**Type 2**  
Well-formed cone on one end, vertical cracks running through caps, no well-defined cone on other end



**Type 3**  
Columnar vertical cracking through both ends, no well-formed cones



**Type 4**  
Diagonal fracture with no cracking through ends; tap with hammer to distinguish from Type 1



**Type 5**  
Side fractures at top or bottom (occur commonly with unbonded caps)



**Type 6**  
Similar to Type 5 but end of cylinder is pointed

**Specific Sample Location:** Wall Panel WA-1

**Yards Placed:** 37.0 yards<sup>3</sup>

**Design Strength:** 4000 psi

**Density:**

**Remarks:**

**Reviewed By:**

Darlene Daniels

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**General Location:** Exterior Wall and Dome Panels

**Date Cast:** 8/17/2020  
**Field Rep:** Stephen Sturges  
**Contractor:** DN Tanks  
**Concrete Supplier:** CT Ready Mix  
**Concrete Admixtures:** Master Air 200, MasterGlenium 7500  
**Air Temp:** 80 °F  
**Weather:** Sunny  
**Nominal Size of Aggr:** 3/4"  
**Date Received by Lab:** 8/18/2020

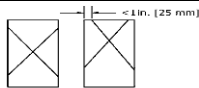
**FIELD TEST RESULTS (Sampled in accordance with ASTM C172)**

TICKET #	*# CYL	SLUMP TEST (in) (ASTM C143)	AIR CONTENT (%) (ASTM C231)	TEMPERATURE (°F) (ASTM C1064)	ELAPSED TIME		
					Batch	Final	Total (Min)
1008211	6	4.00"	6.60%	84 °F	11:22 AM	1:05 PM	103

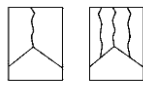
*\*Specimens molded/conditioned in accordance with ASTM C31/ASTM C1231*

**LABORATORY COMPRESSIVE STRENGTH TESTING (ASTM C39)**

Date of Test	Cylinder ID	Age	Cure	Avg Measured Diameter (in)	Cross Sectional (in <sup>2</sup> )	PSI	Max. Load	Break Type
08/21/20	3A	4	LAB	6.00"	28.26"	3,330	94,170	2
08/24/20	3B	7	LAB	6.00"	28.26"	3,490	98,590	2
08/24/20	3C	7	LAB	6.00"	28.26"	3,490	98,610	3
09/14/20	3D	28	LAB	6.00"	28.26"	4,160	117,530	2
09/14/20	3E	28	LAB	6.00"	28.26"	4,180	118,110	2
	3F		HOLD					



**Type 1**  
Reasonably well-formed cones on both ends, less than 1 in. (25 mm) of cracking through caps



**Type 2**  
Well-formed cone on one end, vertical cracks running through caps, no well-defined cone on other end



**Type 3**  
Columnar vertical cracking through both ends, no well-formed cones



**Type 4**  
Diagonal fracture with no cracking through ends; tap with hammer to distinguish from Type 1



**Type 5**  
Side fractures at top or bottom (occur commonly with unbonded caps)



**Type 6**  
Similar to Type 5 but end of cylinder is pointed

**Specific Sample Location:** Wall Panel WB-1

**Yards Placed:** 37.0 yards<sup>3</sup>

**Design Strength:** 4000 psi

**Density:**

**Remarks:**

**Reviewed By:**

Darlene Daniels

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**Field Rep:** Stephen Sturges  
**Contractor:** DN Tanks  
**Concrete Supplier:** CT Ready Mix  
**Concrete Admixtures:** Master Air 200, MasterGlenium 7500  
**Air Temp:** 80 °F  
**Weather:** Sunny  
**Nominal Size of Aggr:** 3/4"  
**Date Received by Lab:** 8/18/2020

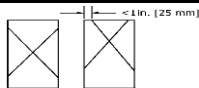
**FIELD TEST RESULTS (Sampled in accordance with ASTM C172)**

TICKET #	*# CYL	SLUMP TEST (in) (ASTM C143)	AIR CONTENT (%) (ASTM C231)	TEMPERATURE (°F) (ASTM C1064)	ELAPSED TIME		
					Batch	Final	Total (Min)
1008215	6	4.75"	7.00%	84 °F	12:21 PM	2:03 PM	102

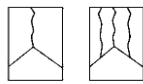
*\*Specimens molded/conditioned in accordance with ASTM C31/ASTM C1231*

**LABORATORY COMPRESSIVE STRENGTH TESTING (ASTM C39)**

Date of Test	Cylinder ID	Age	Cure	Avg Measured Diameter (in)	Cross Sectional (in <sup>2</sup> )	PSI	Max. Load	Break Type
08/21/20	4A	4	LAB	6.00"	28.26"	3,030	85,690	5
08/24/20	4B	7	LAB	6.00"	28.26"	3,090	87,220	2
08/24/20	4C	7	LAB	6.00"	28.26"	3,170	89,470	2
09/14/20	4D	28	LAB	6.00"	28.26"	4,230	119,640	2
09/14/20	4E	28	LAB	6.00"	28.26"	4,250	120,120	2
	4F		HOLD					



**Type 1**  
Reasonably well-formed cone on both ends, less than 1 in. [25 mm] of cracking through caps



**Type 2**  
Well-formed cone on one end, vertical cracks running through caps, no well-defined cone on other end



**Type 3**  
Columnar vertical cracking through both ends, no well-formed cones



**Type 4**  
Diagonal fracture with no cracking through ends; top with hammer to distinguish from Type 1



**Type 5**  
Side fractures at top or bottom (occur commonly with unbonded caps)



**Type 6**  
Similar to Type 5 but end of cylinder is pointed

<b>Specific Sample Location:</b>	Wall Panel WB-1		
<b>Yards Placed:</b>	37.0	<b>yards<sup>3</sup></b>	<b>Design Strength:</b> 4000 psi
<b>Density:</b>			
<b>Remarks:</b>			

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**General Location:** Exterior Wall and Dome Panels

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**Air Temp:** 80 °F  
**Weather:** Sunny  
**Nominal Size of Aggr:** 3/4"  
**Date Received by Lab:** 8/18/2020

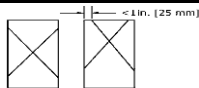
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TICKET #	*# CYL	SLUMP TEST (in) (ASTM C143)	AIR CONTENT (%) (ASTM C231)	TEMPERATURE (°F) (ASTM C1064)	ELAPSED TIME		
					Batch	Final	Total (Min)
1008216	8	4.00"	6.00%	82 °F	1:47 PM	3:01 PM	74

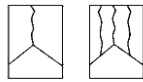
*\*Specimens molded/conditioned in accordance with ASTM C31/ASTM C1231*

**LABORATORY COMPRESSIVE STRENGTH TESTING (ASTM C39)**

Date of Test	Cylinder ID	Age	Cure	Avg Measured Diameter (in)	Cross Sectional (in <sup>2</sup> )	PSI	Max. Load	Break Type
08/21/20	5A	4	LAB	6.00"	28.26"	3,150	89,000	2
08/24/20	5B	7	LAB	6.00"	28.26"	3,200	90,460	2
08/24/20	5C	7	LAB	6.00"	28.26"	3,220	90,970	3
09/14/20	5D	28	LAB	6.00"	28.26"	4,030	113,870	2
09/14/20	5E	28	LAB	6.00"	28.26"	4,040	114,240	2
	5F		HOLD					
	5G		HOLD					
	5H		HOLD					



**Type 1**  
Reasonably well-formed cone; on both ends, less than 1 in. (25 mm) of cracking through caps



**Type 2**  
Well-formed cone on one end; vertical cracks running through caps; no well-defined cone on other end



**Type 3**  
Columnar vertical cracking through both ends; no well-formed cones



**Type 4**  
Diagonal fracture with no cracking through ends; top with hammer to distinguish from Type 1



**Type 5**  
Side fractures at top or bottom (occur commonly with unbonded caps)



**Type 6**  
Similar to Type 5 but end of cylinder is pointed

<b>Specific Sample Location:</b>	Panel DA-1 and DB-2		
<b>Yards Placed:</b>	37.0	<b>yards<sup>3</sup></b>	<b>Design Strength:</b> 4000 psi
<b>Density:</b>			
<b>Remarks:</b>			

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