CEMENT SAMPLE WORKSHEET

North Dakota Department of Transportation, Materials & Research
SFN 9994 (4-2025)

To be Filled in by Field Personnel	
Project Number	PCN
District	Engineer
Contractor	Submitted By
Date Sampled	Sample From
Brand & Type	
Amount Represented	Field Sample Number

For Materials & Research Central Lab Use Only			
Laboratory Number	Date Received		
No. .325 Sieve ASTM C430		Tested By:	Date Tested:
Normal Consistency ASTM C187	%	Tested By:	Date Tested:
Blaine Fineness ASTM C204	m^2/kg	Tested By:	Date Tested:
Autoclave Expansion ASTM C151	%	Tested By:	Date Tested:
Air Content of Mortar ASTM C185	%	Tested By:	Date Tested:
Time of Setting-Gillmore Test ASTM C266		Tested By:	Date Tested:
Initial Set		HR	min.
Final Set		HR	min.
Time of Setting-Vicat Needle Test ASTM C191		Tested By	Date Tested:
Initial Set			min.
Final Set			min.

Compressive Strength - 50mm Cubes ASTM C109 / Flow				
Date Made	Date Tested	Time Made		
3-Day Break			PSI	Tested By
7-Day Break			PSI	Tested By
28-Day Break			PSI	Tested By
Conformity to Specifications				
Condition of Test Sample as Received				
Testing Lab Supervisor			Date Report	

☐ _____ District

☐ Central Lab

Lab No. CE-	Date

NORMAL CONSISTENCY, TIME OF SET, AUTOCLAVE BAR

N.C. = %

START TIME	INITIAL SET TIME	FINAL SET TIME	INITIAL LENGTH	FINAL LENGTH	DIFFERENCE	% EXPANSION
: AM	: AM	: AM	10. "	10. "	0. "	0. %

AIR CONTENT: $100 - 2.5W \frac{(182.7 + P)}{(5000 + 10P)}$ = % air

P = % Water
W=Wt of Mortar

P = $\frac{\text{ml of water}}{\text{grams of cement}}$ x 100 = _____ x100 = _____% Water
350

_____ % Flow Obtained

W = Wt of measure & mortar - Wt of measure = Wt of mortar

W = _____ -638.8 = _____ grams of mortar

2.5 x grams of mortar x factor from chart
2.5 (_____ x0.0 _____)

= 100 - _____ = _____ % Air Content

AIR PERMEABILITY: Specific Surface Cell #2

Time = _____ seconds

Ss = $\frac{3818 \text{ x}}{\text{_____}}$

_____ = _____ cm^2 / gram or _____ m^2kg
8.71

AIR PERMEABILITY: Specific Surface Cell #1

Time = _____ seconds

Ss = $\frac{3818 \text{ x}}{\text{_____}}$

_____ = _____ cm^2 / gram or _____ m^2kg
9.27

T - 192 .325 Screen #_____ Correction Factor _____ %

Residue X(100+CF) = Corrected Residue or % retained on screen
100 - CR = % Passing

_____ X _____ = _____ CR or % retained on screen

100 - _____ = _____ % Passing

Correction factor Screen #1 24.42% Screen #2 4.64% Screen #3 49.11%