

# Barney & Dickenson Pantheon™ Case Study

## Barney & Dickenson:

- 520 Prentice Rd, Vestal, NY 13850
- New York State DOT Certified, Member NRMCA, NSSGA, NYCMA, AGC
- All personnel, equipment, and facility, consistently calibrated

## Scope of Work:

- 4500 PSI Exterior mix, 4000 PSI Interior mix, and a 4000 PSI mix for comparison to slag
- 3 sets of 4x8" core samples were prepared and tested at [Atlantic Testing](#)

## Comments:

- Pantheon™ passed all ranges and requirements of ASTM test standards for all three mixes
- Air content and slump remained consistent when compared to mixes containing slag
- As shown in mix 3, Pantheon™ was 620 PSI stronger than slag at the 28-day compression
- In the mix designs used, Pantheon™ was used as a drop-in replacement for slag (20% replacement)

Mix 1 - 4500 PSI Exterior (Pantheon™)		Mix 2 - 4000 PSI Interior (Pantheon™)		Mix 3 - 4000 PSI (Pantheon™ vs Slag)	
Material	Weight	Material	Weight	Material	Weight
Cement Type ½ Lehigh	526.4	Cement Type ½ Lehigh	451.2	Cement Type ½ Lehigh	451.2
Water	295	Water	284	Water	284
Sand	1390	Sand	1440	Sand	1440
CR#1	890	CR#1	860	CR#1	860
CR#2	560	CR#2	860	CR#2	860
<a href="#">BASF POLYHEED 997</a>	40 oz.	<a href="#">BASF POLYHEED 997</a>	30 oz.	<a href="#">BASF POLYHEED 980</a>	30 oz.
Water to Cement Ratio	0.45	Water to Cement Ratio	0.50	Water to Cement Ratio	0.50
Pantheon™	131.6	Pantheon™	112.8	Pantheon™/LeHigh Slag	112.8

Results		Results		Results		
ASTM-C231 (Air Content)	6.2%	ASTM-C231 (Air Content)	3.0%		Pantheon™	Slag
ASTM-C143 (Slump)	4.5"	ASTM-C143 (Slump)	3.0"	ASTM-C143 (Slump)	3.0"	3.25"
ASTM-C138 (Density)	139.1	ASTM-C138 (Density)	144.68	ASTM-C138 (Density)	144.3	146.8

ASTM-C31 (Comp. Strength)	PSI	ASTM-C31 (Comp. Strength)	PSI	ASTM-C31 (Comp. Strength)	Pantheon™	Slag
2/17/21 - 7 Day Avg	4590	2/17/21 - 7 Day Avg	4506	7 Day Avg	3303	3953
3/10/21 - 28 Day Avg	6730	3/10/21 - 28 Day Avg	6450	28 Day Avg	5980	5360

