

Material and Application Guide

4G Blast Furnace Slag – Levy Plant #1



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Material: Blast Furnace Slag

Product: MDOT – 4G

Location: Levy #1 – State Pit #82-19

Applications: Structural base under portland cement concrete pavements
Structural base under asphaltic concrete pavements
Structural fill

Description: A dense graded base aggregate, produced by crushing and screening air-cooled iron Blast Furnace Slag. A light brown to gray crystalline aggregate formed simultaneously with the production of iron in a blast furnace. The particles are sized from 1½" (37.5mm) to zero (dust).



4G Blast Furnace Slag – Actual size shown

Specifications: Michigan Department of Transportation

4G Blast Furnace Slag conforms to all the requirements of Michigan Department of Transportation "2003 Standard Specifications for Construction", section 902 "Aggregates"

Gradation:

U.S. Sieve	1½"	1"	¾"	½"	⅜"	#4	#8	#30	LBW
Metric Sieve	37.5mm	25.0mm	19.0mm	12.5mm	9.5mm	4.75mm	2.36mm	600 μ m	
Specification	100	-	60-80	35-65	-	-	10-25	5-18	6.0 max
2008 Average	100	83	68	50	40	24	16	9	2.9

Physical Properties:

- Shipping Moisture (2008 Average) – 2.8%
- ASTM C 29, Loose Unit Weight (2008 Average) – 88 lb/ft³
- ASTM C 29, Rodded Unit Weight (2008 Average) – 98 lb/ft³
- ASTM C 131, Abrasion and Impact in the Los Angeles Machine ^A

^A Not applicable to Blast Furnace Slag, see Michigan Department of Transportation "2003 Standard Specifications for Construction" Table 902-2

General Usage Guide:

The 4G Blast Furnace Slag should be placed 6" to 18" thick depending upon ground conditions and design loadings, in lifts not exceeding 8". Prior to the placement of any base material, the grade should be compacted and trimmed to the design density & elevations and be free of any standing water and not in a frozen condition. Base material should be compacted at optimum moisture content (approximately 8% to 10%) to 95% to 100% relative density or to the compaction level as specified in the design plans.

Field Estimating Quantities (Compacted in Place):

	100 sq. yd.	200 sq. yd.	500 sq. yd.	1,000 sq. yd.	2,000 sq. yd.	5,000 sq. yd.	10,000 sq. yd.
6" Deep	28 tons	57 tons	142 tons	283 tons	567 tons	1,417 tons	2,833 tons
8" Deep	38 tons	76 tons	189 tons	378 tons	756 tons	1,889 tons	3,778 tons
10" Deep	47 tons	94 tons	236 tons	472 tons	944 tons	2,361 tons	4,722 tons
12" Deep	57 tons	113 tons	283 tons	567 tons	1,133 tons	2,833 tons	5,667 tons

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