



**Vulcan**  
Materials Company

**Hanover Agricultural  
Limestone Products:  
Agri-Cal and Agri-Lime**

**Vulcan Delivers Value**

875 Oxford Ave  
Hanover, PA 17331  
(717) 637-7121

[www.vulcanmaterials.com](http://www.vulcanmaterials.com)



## Why Buy Vulcan Agricultural Limestone?

Vulcan's quality control department has experimented and turned our Agricultural Limestone products: **Agri-Lime** and **Agri-Cal** into premium products, which will provide your soil with the consistency and quality Calcium & Magnesium Carbonate it needs.

Our gradation has been designed to provide soil with a soluble material of the ideal particle size; essentially it will not turn to paste, as the ultra fines have been removed with a fines separation system designed specifically for producing a quality, spreadable, Agricultural Limestone product that stores outside very well.

Furthermore, the chemistry is outstanding. Hanover quarry is a unique location with deposits of high calcium and dolomite limestone.

To serve your agriculture needs, Vulcan continues to identify and mine these specific deposits. It is also **Certified Organic**. With Vulcan Materials you are getting what you paid for. For these reasons, our Agricultural customers come back.

*Thank you for your consideration.*

## Analysis of Vulcan's Agri-Lime Fine Sized

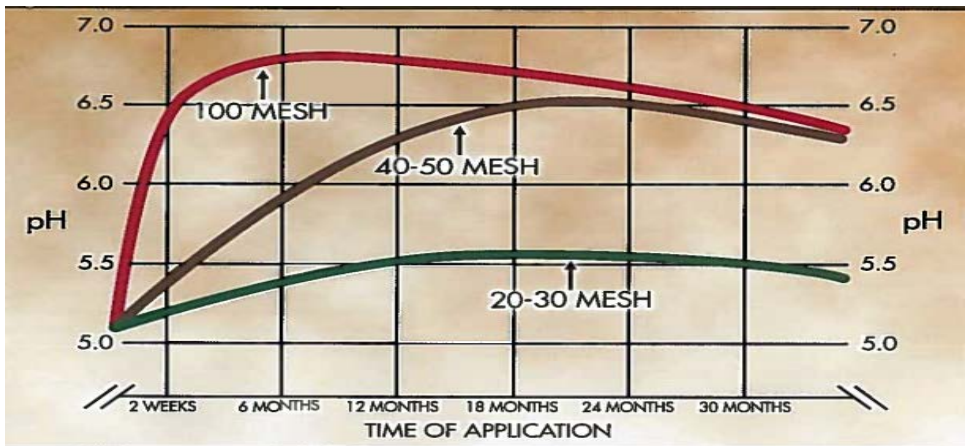
Chemical	Guaranteed (Minimum) Dry Weight Analysis	Typical Dry Weight Analysis
<b>Total Calcium (Ca)</b>	26	26
<b>Total Magnesium (Mg)</b>	7	9
<b>CaO</b>	36	36
<b>CaCO<sub>3</sub></b>	64	65
<b>MgO</b>	11	15
<b>MgCO<sub>3</sub></b>	24	31
<b>CCE</b>	98	102
<b>ENV</b>	86	100
Fineness Sieve	Guaranteed Percent Passing	Typical Percent Passing
<b>20 Mesh</b>	95	99
<b>60 Mesh</b>	90	98
<b>100 Mesh</b>	75	90
<b>Moisture (Free)</b>	<b>Guaranteed</b> Max 15.0%	<b>Typical</b> 10%

## Analysis of Vulcan's Agri-Cal Fine Size Fine Sized

Chemical	Guaranteed (Minimum) Dry Weight Analysis	Typical Dry Weight Analysis
<b>Total Calcium (Ca)</b>	36	37
<b>Total Magnesium (Mg)</b>	.6	1
<b>CaO</b>	51	52
<b>CaCO<sub>3</sub></b>	91	92
<b>MgO</b>	1	2
<b>MgCO<sub>3</sub></b>	2	4
<b>CCE</b>	93	97
<b>ENV</b>	82	94
Fineness Sieve	Guaranteed Percent Passing	Typical Percent Passing
<b>20 Mesh</b>	95	99
<b>60 Mesh</b>	90	98
<b>100 Mesh</b>	75	90
<b>Moisture (Free)</b>	<b>Guaranteed</b> Max 15.0%	<b>Typical</b> 10%

**Tolerances:** A tolerance of 2% of the guaranteed minimum should be allowed with respect to the guaranteed minimum CCE and minimum Fineness. A tolerance of 10% of the guarantee shall be allowed with respect to any other analysis.

Source: Pennsylvania Agricultural Liming Materials Act. This provision of this 108.19 adopted March 4, 1994, Effective March 5, 1994, 24 PAB 1179



Reaction time and duration of activity depend upon particle size of aglime. The smaller the particle size, the quicker the reaction; however, the reaction does not last as long as larger particles. Having fine and larger particles is optimum to have a fast and sustained reaction.

## Acid neutralizing values for aglime materials.

Aglime Material	Calcium carbonate equivalent, %
Calcium Carbonate	100
Calcitic limestone	85 to 100
Dolomitic limestone	95 to 108
Marl (Selma chalk)	50 to 90
Calcium oxide (burnt or quick lime)	120 to 135
Calcium Silicate	150 to 175
Basic Slag	86
Ground oyster shells	50 to 70
Cement Kiln dusts	90 to 100
Wood ashes	40 to 100
Power plant ashes	40 to 50
Gypsum (land plaster)	none
By-products	Variable

# Amounts of aglime materials at different CaCO<sub>3</sub> equivalences required to equal one ton of 100 percent

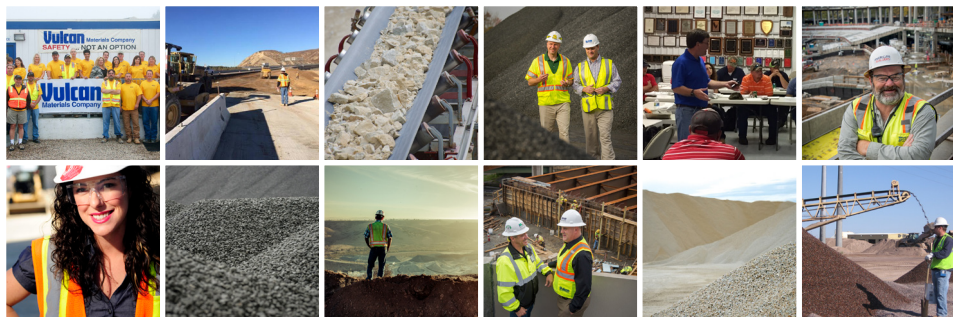
CaCO <sub>3</sub> equivalent of liming material, %	Pounds needed to equal one ton of pure CaCO <sub>3</sub>
<b>60</b>	3,333
<b>70</b>	2,857
<b>80</b>	2,500
<b>85</b>	2,353
<b>90</b>	2,222
<b>95</b>	2,105
<b>100</b>	2,000
<b>105</b>	1,905
<b>110</b>	1,818
<b>120</b>	1,667

## The Effect of fineness on availability of aglime

Mesh Size	One year after completion (Percent Reacted)	Four years after completion (Percent Reacted)
<b>Coarser than 8</b>	5	15
<b>8 to 20</b>	20	45
<b>20 to 50</b>	50	100
<b>50 to 100</b>	100	100

NSA (National Stone Association) source for the above charts and graph.





# THE VULCAN WAY

At Vulcan Materials Company, we believe in doing the right thing socially, environmentally and financially.

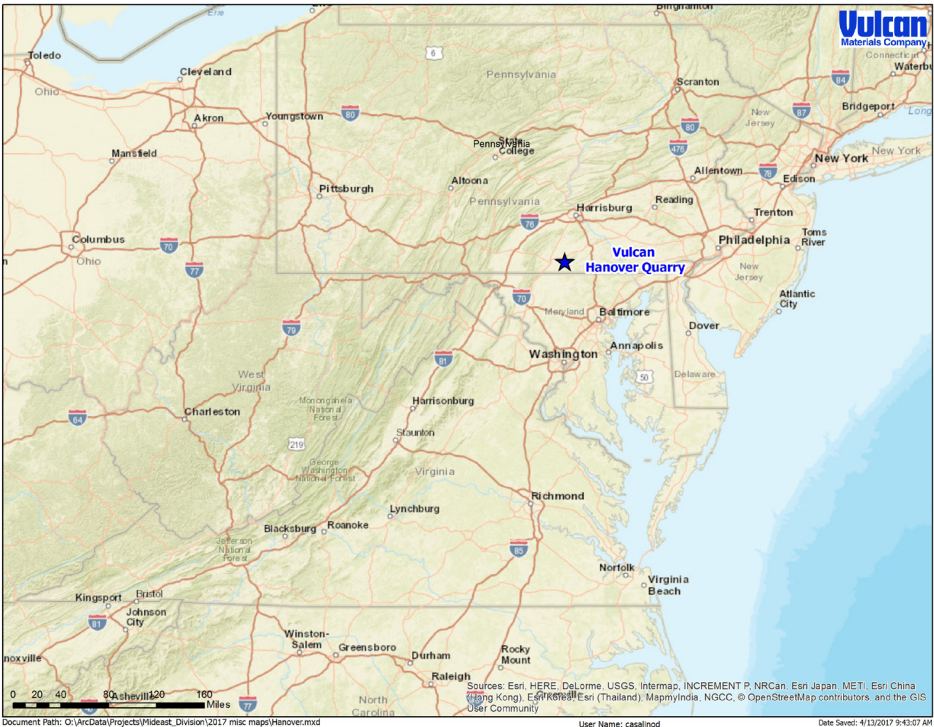
We remain focused on being committed, trusted, and a responsible neighbor. We pride ourselves as a valued member of growing communities we serve.

Vulcan Materials Company will continue to be good stewards of the environment, an industry leader in safety and health, and a responsible manufacturer of our products.

## Integrity | Excellence | People | Vulcan



*Vulcan Quarry: Hanover, Pennsylvania Quarry*





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