

Testing Instructions *and* Notes for Using HessPozz

HESS POZZ GRADES

Hess StandardPozz DS-325 PARTICLE SIZE SPECIFICATION

Dx	Micron Size
D50	14-16

Hess UltraPozz NCS-3 PARTICLE SIZE SPECIFICATION

Dx	Micron Size
D50	2 - 4

CHEMICAL COMPOSITION

Common Name: Pumice

Chem. Name: Amorphous Aluminum Silicate

Silicon Dioxide - 74%

Aluminum Oxide - 12.6%

Ferric Oxide - 1.2%

Ferrous Oxide - 0.7%

Sodium - 2.1%

Potassium - 3.0%

Calcium - 0.7%

Titanium Dioxide - 0.1%

Magnesium Oxide - 0.3%

Water - 3.4%

Hess | **POZZ**
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Hess Pumice Products

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ONE: You can use Pumice Pozz (PP) as a drop-in replacement for Fly Ash (FA), if you so desire. However, since PP is considerably more reactive than FA, you will be able to use less PP and less cement, and still achieve the same level or better of chemical resistance and long-term ultimate compressive strength. For example, if you currently use 517 lbs of cement and 150 lbs of FA per yard in your mix design, you should be able to get the similar results or better with 470 lbs of cement and 120 lbs of PP.

TWO: The PP will be the same material batch after batch, day after day, year after year. You will not have to worry about changes to the chemistry or reactivity and you will never have to worry about workmen inhaling hazardous heavy metals. Neither will you need to be concerned about deleterious carbon content. Most of the difficulties of adding a pozzolan to your mix design just went away.

THREE: You will need to use a High Range Water Reducer (HRWR) to achieve the desired slump and water/cement ratio. You will be able to achieve any desired slump or even SCC, by the judicious use of a HRWR, even at W/C ratios of less than .4/1. With a PP based mix design, you will generally want to start with a higher slump than you normally would, due to the higher reactivity of the PP (vs FA). Additionally, as PP has a higher water demand than FA, which must be offset with the HRWR, your 'workable' time will generally be less than with a standard concrete mix, or with a FA based concrete mix design. This can be offset by additional HRWR when you reach the job site, if needed. As a general rule, particularly at W/C ratios at .4 and below, you will have about 70%-80% of the workability time as compared to a standard concrete mix design. For w/c ratios of .45/1 or greater your 'workability' time might actually be greater than the standard mix as excess water retards the low-heat pozzolanic reaction. It is suggested that you start using the PP based concrete for local or medium distance jobs until you have had a chance to become familiar with the characteristics of this new (but higher performance) mix design. Once you are familiar and know how to handle it and control it, you will be able to pour it anywhere.

COLOR CONSISTENCY: The PP is the same color every load. You will not have shifting shades of gray in your concrete due to the shifting color of your FA. The PP is very consistent.

COST: The PP is more expensive than the FA, but not by much. The PP is non-toxic and non-hazardous. It is a superior, consistently-performing product; the original pozzolan, and still the best.

SUPPORT: If you would like assistance in working up your first batch, give us call: (208) 766-4777 x111 or email: rd@hesspumice.com