

FILTERPAVE PRODUCTS LLC

FILTERPAVE®

AGGREGATE SPECIFICATION AND QUALITY CONTROL DOCUMENT













FILTERPAVE PRODUCTS LLC

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Aggregate Processing Standards (Glass or Stone)

Suppliers approved to supply aggregate for FPPS must comply with the process standards and specifications identified in this document. Aggregate must meet the specifications for processing, treatment, particle size, appearance, moisture control, bagging, quality control, storage and shipping.

Aggregate processing operations certified as FilterPave aggregate suppliers will be subject to quality control audits.

Aggregate Requirements

Glass must be cleaned (recommended to be heated between 175-225 degrees), crushed, gradated and dried to conform to the glass material specification. A roller crusher or impact crusher may be used, but the processed material must be "shard less" with rounded edges and meet the particle size and moisture requirements as identified in the glass material specification.

Stone must be igneous rock with a hardness of 6.2 or higher on the Moh's scale, Either angular to sub-angular or less than 1% absorption. Rounded pebble type stone products may be acceptable in low impact applications. Stone must also be cleaned, gradated and dried to conform to the stone material specification.

Amino-Silane Treatment

Glass suppliers must treat all supplied glass with an Amino-Silane solution, Silquest A-1120 or equivalent. (stone is <u>not</u> treated with Amino-Silane). The Amino-Silane solution shall consist of 0.3% Amino-Silane, with the remainder of the solution being water, and at minimum be applied at a 6% ratio to glass weight. The Amino-Silane is applied to the processed glass prior to drying. The glass may <u>not</u> be heated past 400 degrees after the Amino-Silane solution has been applied to avoid degradation of the Amino-Silane. Glass suppliers will keep a project traceable "Amino-Silane run log" to show that appropriate amounts of Amino-Silane have been applied to any glass run. Amino-Silane must be kept above 40 degrees and used within 48 hours of being mixed with water. Any Amino/water solution older than 48 hours is <u>not</u> to be used and shall be discarded. Glass suppliers shall keep an Amino-Silane MSDS sheet on file.

SuperSak® Storage Bags

The processed Aggregate must be shipped in FPLLC approved SuperSaks. The sacks shall be a minimum of a 5:1 safety factor and 35"Lx35"Wx35"H. The SuperSaks shall be stored indoors out of sunlight and kept dry. Aggregate shall be added to the SuperSaks immediately following processing. In some cases shipment in bulk will be allowed if preapproved by FPLLC and if meeting all other QC standards set forth in this guide.

The weight of SuperSaks

The weight of each SuperSak shall be a maximum of 2500 pounds for glass and 3000 lbs for stone.

Temperature of Glass Post-Production

Temperature of glass is critical to the performance of the FilterPave system. Prior to closure, the temperature of glass within each SuperSak shall be taken to ensure the glass has adequately cooled. The temperature of the glass shall be less than 150° F when the SuperSak is closed.

Grab Samples

A .25 cubic foot sample size of material shall be taken at the start of a batch, every 50 supersaks and at the end of the batch. The material should be taken as it falls off the conveyor belt that feeds the SuperSak loading. The sample should be tagged with the batch number and born on date corresponding to the bag it was taken. Samples are to be held by the vendor for a period of time to be determined and shall be used for quality control testing.



Moisture of Aggregate

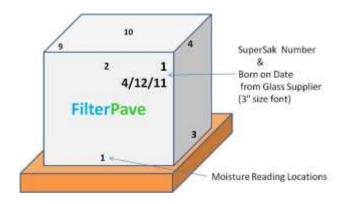
Moisture of aggregate is critical to the performance of the FilterPave system. Moisture readings of each filled SuperSak shall be taken with a FPLLC approved moisture meter prior to closing each SuperSak liner. If moisture readings are not acceptable, dry the aggregate and re-take the readings. With acceptable moisture readings, place a "Born on Date" in 3" font size written in permanent marker on the front face of the SuperSak.

Immediately preceding a shipment of glass to a project site or contractor location the Aggregate Supplier shall complete its portion of the Moisture Log following the procedure outlined on the Log. A minimum of 4 readings must be taken and 2 or more at the bottom sides of the sack.

A SuperSak of aggregate with average moisture readings of 0.1% or greater shall be rejected.

To ensure accurate individual readings, the probe should be wiped between the moisture readings.

SuperSaks with appropriate moisture content shall be given sequential "batch numbers" and it shall be written in 3" font size in permanent marker on the front face of the SuperSak near the "Born on Date".



Closure of SuperSaks

SuperSak shall be closed when the temperature and moisture of glass is acceptable. SuperSak shall be closed by twisting tightly, goose necking, then securing with a Zip Tie or wire. Aggregate shall not be stored in open SuperSaks. Aggregate shall be produced and SuperSak closed on the same day.

Labeling of SuperSaks

The Aggregate supplier will print the SuperSak "number #1 thru #XX" and the "Born on date" of the aggregate with permanent marker in 3" size font on the front face of each SuperSak to be supplied to a project.

Storing of SuperSaks

SuperSaks must be stored on suitable quality shipping pallets in a dry environment. SuperSaks <u>should not</u> be stored outside or in areas exposed to weather or standing water unless proper care is taken to cover and keep each supersak dry.

Shipping of SuperSaks

SuperSaks must be shipped on covered watertight flatbed trucks, curtainside vans or standard dry vans.



Aggregate Material Specification

Glass Material Specification

Glass approved for use with the FilterPave system must meet the material specification standards outlined below. Glass that does not meet the specification will be rejected and returned to the Glass provider at the Glass provider's expense.

Item	Specification
Amino-Silane Treated	Glass must be Amino-Silane treated 6% solution to glass weight.
Glass Particle Size	Shard-less and round-edged glass, 100% passing #4, retained on #12 screen, with 1% fines maximum.
Colors	Mixed, vary by region
Moisture (when bagged)	0-<10%. Bagged glass with 0.1% average moisture or more will be rejected.
SuperSak	5.1 or better load rated and 3" hand written SuperSak number with Born on date.
SuperSak Capacity	2500 Lb. Max

Stone Material Specification

Stone approved for use with the FilterPave system must meet the material specification standards outlined below. Stone that does not meet the specification will be rejected and returned to the Stone provider at the Stone provider's expense.

Item	Specification
Stone Type	Igneous Rock, angular to sub-angular or rounded, 6.2 or higher on Moh's hardness scale, 0-<1% absorption
Stone Particle Size	100% passing 3/8" screen & retained on #8 screen, or passing 1/4" & retained on #12 screen. 1% fines maximum.
Colors	Brown, Tan, Gold, Red, Black, Gray, Green. (Vary by region)
Moisture (when bagged)	0-<10%. Bagged aggregate with 0.1% average moisture or more will be rejected.
SuperSak	5.1 or better load rated and 3" hand written SuperSak number with Born on date.
SuperSak Capacity	3000 Lb. Max



Moistu	re Log - FilterPa	ave								
Today's Date: Contractor Name		Page #:	1					2 10	/2	SuperSak Number
Shipping Address:			4/12/11		Born on Date from Glass Supplier					
FPLLC Contact:	Phone 573-228-9025- email: info@filterpave	.com						7 1		(3" size font)
Aggregate Supp	olier assigns sack batch#, completes Mois	ture Log upo	n shipment,					FilterPave		V 200 10001
sends copy w	ith shipment and copy to FPLLC within 2-	I hrs after shi	pment date	2.					3/	3
2. Contractor con	npletes a Moisture Log and sends to FPLI	C within 24 h	r after rece	iving date.					3//	
3. Contractor con	npletes a Moisture Log and sends to FPLI	C within 24 h	r after insta	Illation date				1-		
							/			
If 1-8 readings have	ve an Average of greater than 10% isolat	e the wet Sup	erSak and o	pen and tal	ke readings	9 & 10.			M	oisture Reading Locations
If readings 9 & 10	are above 10% don't use the SuperSal	until proper	ly dried. Ca	II FPLLC and	advise plai	١.		-	CC .	

		Moisture % Readings in following Location Number										
		Bottom Top Bottom Top Bottom Top Bottom Top Inside Corner Inside									Inside Center	
Sack-Batch#		1	2	3	4	5	6	7	8	Ave	9	10
	Glass Supplier											
	Contractor - Glass Arrival											
	Contractor - Day of Glass Install											
	Glass Supplier											
	Contractor - Glass Arrival											
	Contractor - Day of Glass Install											
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Moistu	re Log - FilterPa	ive											
Today's Date:		Page #:											
Contractor Name:		18	I.										
Shipping Address:													
	Phone 573-228-9025- email: info@filterpave.o	com											
		Moisture % Readings in following Location Number											
Sack-Batch#		Bottom 1	Top 2	Bottom 3	Top 4	Bottom 5	Top 6	Bottom 7	Top 8	Ave	Inside Corner 9	Inside Center 10	
Juck Butchiii	Glass Supplier		_		-			,		Ave		10	
	Contractor - Glass Arrival												
	Contractor - Day of Glass Install												
	Glass Supplier												
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