Dense Fill™

Alumina Trihydrate for Solid Surface Applications

The R.J. Marshall Company offers a full line of alumina trihydrate solid surface filler systems. The Dense Fill series offers excellent stain resistance, easy wet-out and excellent air release properties. These Dense Fill products are easy to pigment, allowing the creation of a wide range of colors for custom applications. As in all ATH materials, meeting Class I flame and smoke requirements is an added benefit.

Typical Physical Properties

Product	DF174	DF211(A)	DF221	DF225	DF230
Resin Demand[1] (ml/100g)	23	28	27	30	25
Gel Time[2] (min)	25	36	15	16	22
Black Specks (#/100g)	10 max	10 max	10 max	10 max	10 max
Average Particle Size (um)	33	13	28	25	30
Translucency (foot-candles)	115	115	105	100	101
Color	Cool White	Cool White	White	White	Tan

1) Laboratory wet-out test, actual shop resin percentage may vary. 2) 65% filler loading, 2% catalyst based on resin weight.

Suggestions For Use:

Equipment The basic equipment needed for solid surface manufacturing includes a vacuum mixer or continuous casting machine with a densifier, appropriate molds, a table sander, and necessary saws and routers. For additional information, please see our paper entitled Solid Surface Manufacturing.

Resin Suggestions Consult your resin supplier for the appropriate resin to use. The appearance of the final product may vary in color consistency when different resins are used. The recommended resin level for most DF applications is 33-38% by weight. This percentage may vary depending on the resin viscosity, ambient and matrix temperatures and your preferred mix consistency.

Catalyst Level Choose a catalyst suitable for use with alumina trihydrate and your solid surface resin. A catalyst level of 1.5% by weight of resin is a recommended starting point. Differing catalyst levels can change the overall color of the material. The gel time should be between 20 and 30 minutes. If excessive gel times are experienced, a change in catalyst may be necessary.

Matrix Consistency When the resin level is around 33-38% by weight, the matrix should have a workable consistency. The use of additives such as DC Granules or Hylite Granules may require a higher viscosity mix and less or no vibration.

Vibration If vibration is necessary, it should be minimal. Vacuum mixing, creating a matrix with an appropriate viscosity, and using proper pouring techniques should eliminate air entrapment in the matrix.

Thermal Cycling When poured by standard manufacturing procedures, our Dense Fill will meet or exceed all ANSI/ICPA SS-1-2001 certification standards.

THE R.J. MARSHALL COMPANY

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