TANK CONNECTION - FUSION 5000 FBE™ COATING SYSTEM YIELDS UNPRECEDENTED PERFORMANCE IN "FUNCTIONAL MASS FLOW" DRY BULK STORAGE SYSTEMS – *Bill Neighbors, Tank Connection President*

Tank Connection is recognized in the industrial "dry bulk" market as design, fabrication and coating experts for "functional mass flow storage systems". Based on a sample of your material tested on a Jenike Shear Tester, Tank Connection can design a "functional mass flow" storage system that will provide consistent, reliable performance in the field . . . and we back it with a performance guarantee.

TYPICAL FLOW DESIGN PARAMETERS:

- **Funnel Flow for Dry Bulk -** Stored product discharges from a storage tank in a funnel flow/channel, which typically forms in the center of the tank. Stored product discharge is "last in/first out" (LIFO). Segregation of product occurs during discharge.
- **Mass Flow for Dry Bulk** - Every particle is in some degree of motion during discharge. Stored product discharge is "first in/first out (FIFO). Mass flow minimizes segregation of product during discharge.
- **Mass Flow Storage System Design** – A storage tank design that will withstand mass flow discharge conditions if they occur. A mass flow design does not guarantee "functional" mass flow discharge from the tank.
- **Functional Mass Flow Storage System Design** – A storage tank design that guarantees the stored product will functionally mass flow during discharge.

A COMMOM MISTAKE:

A common mistake made in today's "dry bulk" storage market is to specify a mass flow tank design. If true mass flow is a requirement in your discharge stream from the storage tank, the correct parameter to specify is a "functional mass flow" storage system.

TANK CONNECTION SOLUTIONS:

Based on independent testing conducted by Solids Handling Technologies, Tank Connection's Fusion 5000 FBE™ coating system yielded superior "flow promotion" qualities for dry bulk materials. Flow testing depicts that functional mass flow discharge can be achieved with reduced hopper slopes by utilizing Tank Connection's proprietary fusion bond system. Reduced hopper slopes equate to cost savings for the client. (Note: Joe Marinelli at Solids Handling Technologies is recognized as one of the top flow consultants worldwide.)

Storage Systems: Various Dry Bulk Materials
Interior Coating System Tested: Fusion 5000 FBE™ (fusion bond epoxy) System

Example: Stoker coal will functionally mass flow utilizing a 63° carbon steel hopper that is coated with Fusion 5000 FBE™. The same results can be achieved by utilizing a 69° hopper constructed of 304 stainless steel with a 2B finish. Similarly, a 77° hopper slope is required for functional mass flow from an uncoated carbon steel hopper.

Solid Handling Technologies Data

Reference Project Number	Stored Material	ThetaC, **Fusion 5000** Deg from Vert @ 2' dia	ThetaC, **2B Stainless Steel** Deg from Vert @ 2' dia	ThetaC, **Carbon Steel** Deg from Vert @ 2' dia
082366	Stoker Coal	27	21	13
082249	Quarry Mix Cement	11	1	
082244	Magnesium Oxide	11	7	
082357	Copper Carbonate	10		
082365	PET Regrind	29	28	
082777	Coarse Regrind	35	36	
082370	Lignite Coal	20	24	
082319	Charcoal	26		
082296	Coke	25		
082315	Glass Batch Mix	20		12
082295	Oat Hulls	30	30	
082254	Ground Rice Hulls	22		
082776	Trona Ore	24	13	
092381	Plastic Resin	16	22	
092383	Lignite Coal	22	26	
072155	Coli Residue	27	24	
092395	Corn Stover	28	27	

Notes: Hopper angles given in degrees from vertical with a conical hopper opening of 2' diameter. Surfaces tested include Fusion 5000 FBE™, 304 stainless steel with 2B finish and uncoated carbon steel plate.

At Tank Connection, we remedy storage problems of the past by prescribing the correct variables of hopper slope, outlet size, outlet configurations, materials of construction, surface finish, active flow-aid devices, passive flow-aid devices, internal coating systems, external coating systems, applicable codes and the correct flow type required for each application.

For more information about Tank Connection, visit our website at: www.tankconnection.com.