



Material Characteristic Tables in the CEMA 350 Book

Question

When starting to design a screw, Martin and other manufacturers publish a table of Material Characteristics, Trough loading, etc. I am sure you are familiar with these specs. Where did these specs originate and are they still valid today? What is the value of following this versus what other companies, such as WAM, are doing?

Answer

All of the bulk material tables published by screw conveyor manufacturers are based on the Material Characteristic tables in the CEMA 350 book. The CEMA 350 book is the "bible" for screw conveyor design and was first published in 1971. CEMA is the Conveyor Equipment Manufacturers Association and is an industry group dedicated to the advancement of the conveyor industry. CEMA created the 350 book as a guideline for designing and manufacturing screw conveyors. The book is updated almost every year to add new materials to the Material Characteristics tables. I am the Chairman of the Screw Conveyor Engineering Committee for CEMA and we have made several updates and improvements to the CEMA 350 book in recent years. You can order an electronic copy of the CEMA 350 book from the CEMA Web site at www.cemanet.org. The guidelines in the CEMA 350 book apply for most applications and are conservative. Bulk materials are classified by density, size, flowability, abrasiveness, and other factors. Each bulk material is given a code which corresponds to basic design and materials of construction guidelines. For example, a bulk material such as Portland cement is dense at 94 lbs cu/ft, is very fine, has good flowability, is moderately abrasive and can aerate when conveyed. The CEMA material characteristic code is 94A10026M from the CEMA 350 book. The corresponding component series code is 2D, or heavy-duty. Minimum materials of construction thickness are given for each conveyor diameter.

WAM Inc. is a European-based manufacturer with offices located in the U.S. WAM is also a member of CEMA and follows our industry guidelines. They also have their own designs and standards for screw conveyors that make them unique to the industry. You probably just need to specify that you want your equipment designed and built to CEMA standards if you are more comfortable with the CEMA standards.



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