



**2023 CEMA FALL ENGINEERING CONFERENCE  
CONVEYOR PULLEY COMMITTEE MEETING**  
Microsoft Teams Webinar  
Tuesday, November 6, 2023 – 3:30 pm

**AGENDA**

1. Call to order.
2. Attendance and Introductions.
3. Approval of Minutes of June 13, 2023 (attached)
4. Old business
  - a) **Unit Pulley Standard to better support unit pulley requirements (CEMA Standard No. B106.1) – Updates.**

Subcommittee: Jeff Ellis, PPI (chair); Benjamin Brewer, Douglas Manufacturing Co. Inc.; Bob Hawkins, Continental Global MH; Zac Casper, Talos Engineered Products; Ted Hotvet, Van Gorp; Paul Schmidgall, Superior Industries; Ryan Cooksley, Universal Industries, Tamara Thimmel, Safari Belting LLC; Greg Pollitt, Honeywell Intelligrated; Adam Webster, Woodsage, A Div. of ProVeyance; and Sean Johnson, Honeywell Intelligrated

A roller section is being added to the standard. It was settled on simplifying it to a live shaft pulley and dead/non-rotating shaft roller with steel shafts for now. Load rating and availability charts are similar to the ANSI/CEMA Standard B105.1 standard format. They have been created to be able to duplicate the usability of the standard for potential users.

The subcommittee would incorporate the changes proposed during Monday's working session at the summer engineering conference into the draft. They plan to present the final draft at the 2023 CEMA Fall Engineering Conference.



b) **Maximum Tension Ratio per Diameter per Inch Belt Width – Updates.**

Subcommittee: Brett DeVries, FLEXCO (chair); David Keech, Dodge Industrial, Inc.; Bob Hawkins, Continental Global MH.; Jeff Ellis, PPI; Al Reicks, Overland Conveyor Co., Inc.; Benjamin Brewer, Douglas Manufacturing Co. Inc.; David Jesse, Lassing Dibben Consulting Engineers Ltd.; Peter Bradley, Continental ContiTech – North America.

The initial task of the subcommittee was to determine the minimum pulley diameter size based on the horsepower transmitted.

In a previous meeting, Brett presented his work and calculator on lagging friction factors. He was currently looking for help analyzing the data he's gathered and/or using his calculator to compare it to real-world results. His question was, do we use his calculator in the future or stick with the existing Euler equation?

Al Reicks had agreed to help verify results but had questions about what the calculator was doing. Jeff Ellis volunteered to present real-world applications to Brett to validate the calculator. The committee agreed that more validation of the calculator would be needed before it could be voted on in any way at the Engineering Conference.

More clarity in the calculation is needed and to show how the changes affect the belt—also, a comparison between Flexco and other calculators. Brett was not present at that meeting so a follow-up would be made for additional feedback or opinions on the calculator.

c) **ANSI/CEMA Standard. B105.1 “Specifications for Welded Steel Conveyor Pulleys – With Compression Type Hubs”- Pulley and Shaft Selection Tables 4A and 4B.** How often are these used? In what way do we feel they are used? – Updates.

Subcommittee: David Keech, Dodge Industrial, Inc. (chair); Benjamin Brewer, Douglas Manufacturing Co. Inc.; Jeff Ellis, PPI; Andrew Hustrulid, Shaw Almex Industries Ltd.; Paul Ormsbee, Overland Conveyor Co., Inc.; Brett DeVries, FLEXCO; Marc Dos Santos, Dos Santos International; Al Reicks, Overland Conveyor Co., Inc., and Akiko Wakatsuki, Fenner Dunlop Conveyor Belting,

The Committee should gather more pulley manufacturers' input on removing some of the odd pulley shaft sizes. There should be a further discussion in the subcommittee to determine what to do with Tables 4A and 4B. There were some suggestions they are removed altogether, but they need to remain as a reference for the pulley load ratings.



In previous meetings, it was discussed the changes in B105.1 to update Tables 4 to have an equation that matches the tables. Additionally, it was brought up that the 6,000-psi stress limit is a bending moment limit, not a shaft stress limit. The subcommittee will continue working on showing an equation that truly matches the tables.

It was a motion to use the formulas in the full expanded version with all the details and add some additional support for the underlying numbers.

- d) **CEMA Belt Book, 8<sup>th</sup> Edition – Chapter 8 “Pulley Shafts and Bearings”** – Updates.  
Subcommittee: Jeff Ellis, PPI (Chair); Andrew Hustrulid, Shaw Almex Industries Ltd.; Bob Hawkins, Continental Global MH.; Travis Faulhaber, Imperial Conveying Systems; and Jonathan Phillips, Dodge Industrial, Inc.

This committee asked to review/rewrite the current chapter and the comments and errata received after the second printing of the book.

5. New Business
6. Next Meeting – June 11, 2024, Naples Grande Beach Resort, Naples, FL.
7. Adjourn.

Jeff Ellis, Chair  
Benjamin Brewer, Vice-Chair







