



CONVEYOR EQUIPMENT  
MANUFACTURERS ASSOCIATION

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**2023 CEMA ENGINEERING CONFERENCE  
CONVEYOR IDLER COMMITTEE MEETING**

Naples Grande Beach Resort, Naples, FL  
Tuesday, June 13, 2023 – 9:00 am

**AGENDA**

1. Call to order.
2. Attendance and Introductions.
3. Approval of Minutes of November 7, 2022 (attached).
4. Old business

- a) **How speed affects Idler Rolls** (Former “high-speed conveying for idlers” topic)– Updates.

Subcommittee: Jim Masek, PPI (chair); Tom Hubbert, Dos Santos International; Paul Ormsbee, Overland Conveyor Co., Inc.; Paul Schmidgall, Superior Industries, Inc.; Andrew Jennings, Conveyor Dynamics, Inc.; Benjamin Brewer, Douglas Manufacturing Co., Inc.; Luis Estay, Bechtel Corporation; Nick Mackenzie, Rulmeca Canada Limited; Dr. Andrew Hustrulid, Shaw Almex Industries; Muhammed Malik, Luff Industries Ltd.; Bob Hawkins, Continental Global Material Handling, LLC.

The subcommittee is working on a white/technical paper that will lead to an addition to the CEMA’s Belt Book.

There was some discussion about what could be required from high-speed idlers such as tight TIR, balancing requirement, specific surface finish, and low TIR rate of change. The subcommittee will reach out to gather specifications from large end-users to better understand what is regularly called for in high-speed applications.

- b) **3-Roll Offset Idlers White Paper** – Updates

*Volunteer*: Andrew Jennings, Conveyor Dynamics, Inc.

Some references to an end-user needed to be removed before the white paper is ready.



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c) **Impact Equations** – Updates.

Subcommittee: Brett DeVries, FLEXCO (Chair); Benjamin Brewer, Douglas Manufacturing Co., Inc.; Tony Van Zee & Jim Masek, PPI; Scott Adams, Ingenium Design; Ray Weidenfeller, Sunhill America, LLC.; Paul Schmidgall, Superior Industries, Inc.; Bob Hawkins, Continental Global Material Handling, LLC.

A range of “k” factor values (spring constant) is required to be able to perform the work to move away from force equations for impact idlers. The plan is to leverage the work performed on CEMA Standard No. 575 “Bulk Material Belt Conveyor Impact Bed/Cradle: Selection and Dimensions”. Also, try to harmonize the impact idler equations with those related to impact beds.

Brett led the charge to harmonize the impact idler equations with those of the impact beds. He was looking at deflection from a single impact and using the remainder of the deflection for handling the material flow. He created spreadsheets to easily show how various k factors affect the results of the equations.

He plans to present a clean and organized form to be discussed, showing different scenarios about what could happen and how it will affect users.

d) **Idler Monitoring Technical Paper** – Updates

Subcommittee: Benjamin Brewer, Douglas Manufacturing Co., Inc. (chair); Dr. Andrew Hustrulid, Shaw Almex Industries; Jim Masek, PPI; Paul Schmidgall, Superior Industries, Inc.; Kevin Guay, NHI.

Part of this content will be included in the CEMA’s Belt Book, Chapter 16, and needs to cover all the components because nowadays everything is monitored.

e) **White Papers Topics** – Volunteers needed.

Possible topics include (but are not limited to) the following:

- Gap between CEMA standards and international standards (If a volunteer decides to tackle this topic, it might be best to start by defining the differences in approaches)
- Idler junction or roll gap as it relates to belt failures.
- Energy efficiency scale for idlers (including how it relates to belt indentation rolling resistance)
- Non-Standard Configuration Idlers.



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f) **Non-Steel Idler Rolls** – Updates

Subcommittee: Paul Schmidgall, Superior Industries, inc. (Chair); Brett DeVries, FLEXCO; Tony VanZee & Jim Masek, PPI; Kevin Guay, NHI; Bob Hawkins, Continental Global Material Handling, LLC; Scott Adams, Ingenium Design; Wendell Love, Bunting.

This committee considers this should be added to the CEMA's Belt Book 8<sup>th</sup> Edition. The subcommittee started working on a white paper that will ultimately be added to the CEMA's Belt Book Chapter 5. In previous meetings, the different rollers were briefly discussed, and how they could be separated into categories based on construction.

5. New Business.
6. Next Meeting – November 6, 2023, Virtual CEMA Fall Engineering Conference.
7. Adjourn.

Paul Schmidgall, Chair  
Andrew Hustrulid, Vice Chair



**2022 CEMA FALL ENGINEERING CONFERENCE  
CONVEYOR IDLER COMMITTEE MEETING**

Cisco Webex Meetings  
Monday, November 7, 2022

**MINUTES**

1. Call to order  
Paul Schmidgall, Superior Industries, Inc.; Chair, called the meeting to order at 2:15 pm.

2. Attendance and Introductions – Roll call attached.

3. Approval of Minutes of June 14, 2022 – Minutes were approved.

4. Old business

- a) **High-Speed Conveying for Idlers** – Updates.

Subcommittee: Jim Masek, PPI (chair); Tom Hubbert, Dos Santos International; Paul Ormsbee, Overland Conveyor Co., Inc.; Paul Schmidgall, Superior Industries, Inc.; Andrew Jennings, Conveyor Dynamics, Inc.; Benjamin Brewer, Douglas Manufacturing Co., Inc.; Luis Estay, Bechtel Corporation; Nick Mackenzie, Rulmeca Canada Limited; Dr. Andrew Hustrulid, Shaw Almex Industries; Muhammed Malik, Luff Industries Ltd.; Bob Hawkins, Continental Global Material Handling, LLC.

The subcommittee is working on a white/technical paper that will lead to an addition to the CEMA's Belt Book.

There was some discussion about what could be required from high-speed idlers such as tight TIR, balancing requirement, specific surface finish, and low TIR rate of change. The subcommittee will reach out to gather specifications from large end-users to better understand what is regularly called for in high-speed applications.

To avoid confusion the name of this item will be "How speed affects Idler Rolls". The subcommittee continues working on this project. The final draft will be presented at the 2023 CEMA Summer Engineering Conference.

- b) **3-Roll Offset Idlers White Paper** – Updates

*Volunteer*: Andrew Jennings, Conveyor Dynamics, Inc.

Some references to an end-user needed to be removed before the white paper is ready. Andrew was not present during this meeting to provide updates. Paul Schmidgall will



contact him regarding the status of the white paper and get back to this committee.

c) **Impact Equations** – Updates.

Subcommittee: Brett DeVries, FLEXCO (Chair); Benjamin Brewer, Douglas Manufacturing Co., Inc.; Tony Van Zee & Jim Masek, PPI; Scott Adams, Ingenium Design; Ray Weidenfeller, Sunhill America, LLC.; Paul Schmidgall, Superior Industries, Inc.; Bob Hawkins, Continental Global Material Handling, LLC.

A range of “k” factor values (spring constant) is required to be able to perform the work to move away from force equations for impact idlers. The plan is to leverage the work performed on CEMA Standard No. 575 “Bulk Material Belt Conveyor Impact Bed/Cradle: Selection and Dimensions”. Also, try to harmonize the impact idler equations with those related to impact beds.

Brett led the charge to harmonize the impact idler equations with those of the impact beds. He was looking at deflection from a single impact and using the remainder of the deflection for handling the material flow. He created spreadsheets to easily show how various k factors affect the results of the equations.

Work is still in progress. He plans to present a clean and organized form to be discussed during the 2023 CEMA Summer Engineering Conference, showing different scenarios about what could happen and how it will affect users.

d) **Idler Monitoring White Paper** – Updates

Subcommittee: Benjamin Brewer, Douglas Manufacturing Co., Inc. (chair); Dr. Andrew Hustrulid, Shaw Almex Industries; Jim Masek, PPI; Paul Schmidgall, Superior Industries, Inc.; Kevin Guay, NHI.

The white paper became a technical paper because of the length of the document. Part of this content will be included in the CEMA’s Belt Book, Chapter 16, and needs to cover all the components because nowadays everything is monitored. The final draft will be presented at the 2023 CEMA Summer Engineering Conference.

e) **White Papers Topics** – Volunteers needed

Possible topics include (but are not limited to) the following:

- Gap between CEMA standards and international standards (If a volunteer decides to tackle this topic, it might be best to start by defining the differences in approaches)
- Idler junction or roll gap as it relates to belt failures
- Energy efficiency scale for idlers (including how it relates to belt indentation)



rolling resistance

- Non-Standard Configuration Idlers.

No volunteers at this time.

f) **Non-Steel Rolls – Updates**

Subcommittee: Paul Schmidgall, Superior Industries, inc. (Chair); Brett DeVries, FLEXCO; Tony VanZee & Jim Masek, PPI; Kevin Guay, NHI; Bob Hawkins, Continental Global Material Handling, LLC; Scott Adams, Ingenium Design; Wendell Love, Bunting.

This committee considers this should be added to the CEMA's Belt Book 8<sup>th</sup> Edition. The subcommittee started working on a white paper that will ultimately be added to the CEMA's Belt Book Chapter 5. In previous meetings, the different rollers were briefly discussed, and how they could be separated into categories based on construction.

The subcommittee is still working on this document. Updates will be presented at the 2023 CEMA Summer Engineering Conference.

g) **Energy Efficiency Rating for Idlers – Updates. Survey Results.**

ARPM adopted an energy efficiency chart for conveyor belts and having a similar tool has been brought up in other committees.

A question was brought up: Should something like this be done for idlers? It would need to look at torque, seal effectiveness, and temperature. Also, it was mentioned that there was some difficulty moving forward back when the rolling drag was measured and published.

This committee needed to see if the Official Representatives (ORs) wanted to develop a color-coded efficiency scale for idlers. A survey was developed and sent to them to receive their feedback.

The results of the survey showed that the majority of ORs do not see a need for a tool like this for idlers at this time.

5. New Business – No new business was discussed at this meeting.
6. Next Meeting – June 13, 2023, LaPlaya Beach & Golf Resort, Naples, FL.
7. Meeting was adjourned at 2:45 pm

Paul Schmidgall, Chair