

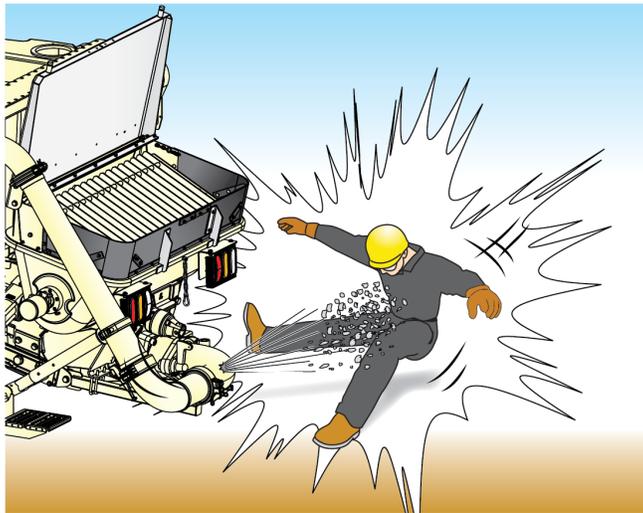
# ACPA SAFETY BULLETIN

## BACK-END PROTECTION

### Prevention of injuries to personnel near the hopper from transition pipe or elbow rupture

When concrete pumps are actively pumping, the components under the greatest pressures are the pipeline components nearest the hopper. These pressures can result in a safety issue if these components:

1. are rated for less pressure than the pump's maximum pressure capacity rating;
2. are used when the wall thickness is thinner than the manufacturer's recommendation;
3. are not properly maintained (i.e. dent avoidance, properly cleaned out);
4. are from a supplier with a history of multiple backend product failures;
5. have unexpected product defects;
6. have been welded or hard-faced without proper heat treating.



**Figure 1.**  
**Illustration of a transition pipe failure**

As with any machinery component, the potential exists for even a brand-new back-end part to have a hidden flaw that could fail during operation. Therefore, it is important to be cautious around these components.

Solutions exist that can be added to the pump to cover up these components. These items range from custom-made hanging rubber sheets, to strap-on material sleeves, to solid metal enclosures. Each can provide a different level of added protection, but all need to be sufficient in their ability to prevent flying fragments or mix components from reaching personnel. If used, these items will also need to be periodically inspected and maintained per the supplier's recommendation (if applicable).



**Figure 2.**  
**One type of back end protection, shown in place**

As one of the main sources of safety information for the pumping industry, the ACPA feels it is important to let the membership know of this issue and the possible remedies. If you're interested in obtaining one of the protection devices, please contact the manufacturer of your machines. Make sure that any device you use as back end protection is strong enough to contain the concrete expulsion in the event of a failure, and is maintained so it will work as expected when needed.

This bulletin was developed by the ACPA's Equipment Safety Committee to alert employers, labor groups, and employees to potential hazards associated with work activities. This is **NOT a rule**, and creates no new legal obligations.

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