Railcar dumper system upgrades

Dumper cage and clamp

Rolled T end rings

Traditional end rings are welded under the end ring rail and are subject to high wheel loads. This critical weld often cracks prematurely, leading to end ring failure.

Metso constructs the flange and a portion of the web from a standard structural T shape, eliminating the critical weld. As a result, the high load zone has a rolled section with a large radius and the full penetration weld is removed to a low stress zone. This leads to a significantly longer operating life for the end ring.

UHMW wear strips for blocking system

UHMW wear strips are used to cushion the side of the railcars and eliminate scrubbing of the side walls. The UHMW material has a lower friction factor which reduces loads into the blocking structure and prolongs cage life. It also minimizes wear on the railcar siding. To make replacement simpler, the wear strips are bolted on in segments which improves maintenance efficiency.

If the existing blocking wall is not suitable or is worn out, a new blocking support structure can be provided to replace the existing one. Full length blocking can also be provided if required.

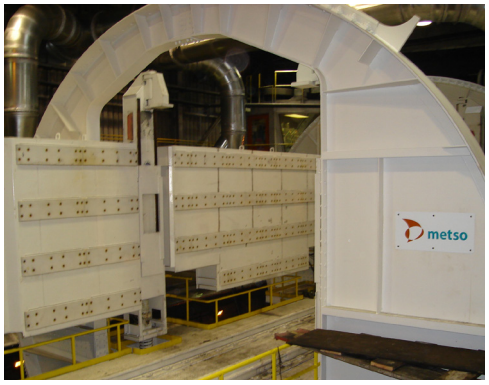
Breakaway car clamps

The breakaway clamp assembly employs a vertical pivot that allows the clamp head to rotate out of the way when struck on the side such as by a railcar or a locomotive. Both the clamp and the whole dumper cage are protected.

The clamp is held in place by a small shear pin designed to fail in the event of a collision. After a failure, the clamp head is rotated back into place and the shear pin replaced.

Buffer for dumper rotation

The buffers are designed for an uncontrolled tip or high-speed return of the dumper. It absorbs the energy during unexpected stops in operation due to a drive or brake failure. As a result, damage is minimized to the dumper and dumper drive equipment and components.



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