

SLIDING WORK PLATFORM Isolation Gates and Platforms

PROJECT SCOPE

Project: Iron Ore Mine in Western Australia
Equipment: Sliding Work Platform
Scope: Design and Manufacture Self-Closing, Sliding Work Platform
Aim: To eliminate the use of scaffold and provide a self-closing safe work platform for head chute maintenance.

When reviewing maintenance activities, a major iron ore miner identified that servicing head chute wear liners and belt cleaners on one of their elevated belt conveyors was both time consuming and a high-risk activity.

As part of an improvement project, Bulk Handling Technologies (BHT) was engaged to design and manufacture a self-closing work platform which would allow maintenance personnel to efficiently service the head chute of the conveyor by enabling fast, safe access to the internals of the head chute for replacement of wearing components.

The previous process involved the installation and removal of scaffold during maintenance which was a high risk and time-consuming activity.

DESIGN CHALLENGES AND CONSIDERATIONS

Located beneath an elevated platform in a restricted, humid and dusty environment posed some unique design challenges. Key criteria for the project were safety and reliability.

As high material head loads were not a factor in this application, the use of a rack-and-pinion drive provided a simple, low profile method of electrical actuation, avoiding the need for hydraulic power units and hosing.

Required to sit idle for extended periods, the design incorporated specialised treatments on the rack and pinion components and also sliding tracks for corrosion prevention and wear resistance.

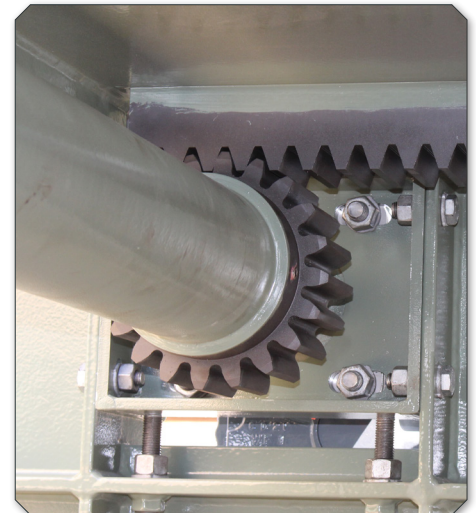
Locking pins were incorporated to provide a method of positive locking. This provided added security during maintenance by allowing personnel to attach their personal danger tags to a positive lock in addition to isolating the main electric drives.

THE FINAL SOLUTION

The Sliding Work Platform was manufactured, assembled and tested by BHT in Perth, WA.

The final design provided a safe working area of approximately 2.9m x 2.1m and incorporated the following key features to meet the specific requirements of the application:

Installed Power: 2 x 0.75kW
Actuation: Heavy Duty dual rack-and-pinion
Travel Limits: End-of-Travel Limit Switches and removeable mechanical stops
Floor: 8mm thick chequer plate



For more information on this project, or any other enquiries, contact us + 61 (0)8 9332 3454 or sales@bhtgroup.com.au