

CONVEYOR DESIGN

Complete Conveyor Design

Static Analysis

Dynamic Analysis

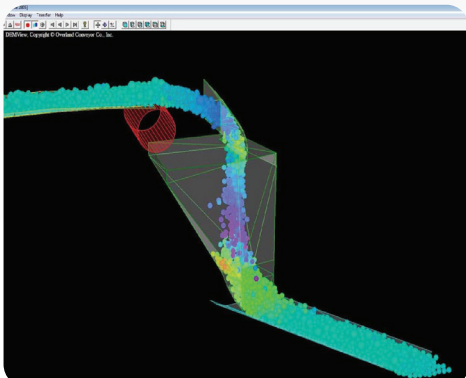
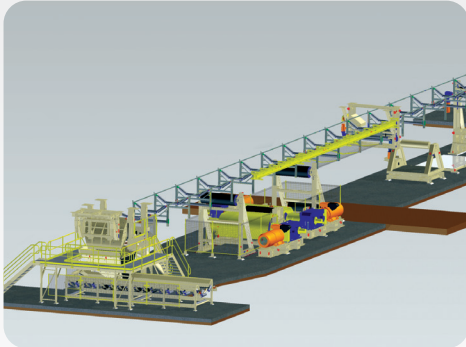
Horizontal Curve Analysis

Control System Design

Finite Element Analysis

Component Analysis

- Pulley Design
- Idler Design
- Structure Design
- Electrical Design
- Discrete Element Modelling



Australian Conveyor Engineering has extensive experience in the design, manufacture, installation and commissioning of high capacity conveyors.

Furthermore, the experience gained through the successful commissioning of difficult conveyor profiles ensures designs are produced that consider all relevant factors for an efficient and reliable conveyor system.

Conveyor design commences with the static calculations based on the conveyor profile, capacity and material specifications for the conveyor. The drive powers, locations and braking requirements for the conveyor can be established and optimised to provide the most efficient solution.

Dynamic analysis permits the accurate calculation of peak stresses and belt tensions in the conveyor. It ensures components are designed for the correct stresses, and provides a basis for optimal electrical control of the conveyor.

Components are conservatively designed with comfortable factors of safety for all loading conditions. Finite element analysis is used to eliminate fatigue related failures at the design stage.

Control systems for the conveyor are designed understanding the mechanical constraints of the conveyor, not simply added after the equipment is constructed. In this way, ACE uniquely coordinates the complete design process to ensure the conveyor is constructed as a unified system. The customer receives the benefit of a conveyor perfectly matched to the duty required with the reliability of a totally integrated system.

TECHNICAL DETAILS

Our design experience includes:

- Steeply inclined drift conveyors
- Regenerative downhill conveyors
- Horizontally curved conveyors
- Conveyors with multiple tripper drives
- Maingate conveyors up to 6.4km in length
- Conveyors with undulating profiles

We routinely design equipment to meet customer's specific requirements. We have developed an extensive range of computer modelling tools to rapidly optimise designs for conveyor components.

Component designs are efficient and cost-effective producing equipment at the lowest cost and longest service life.