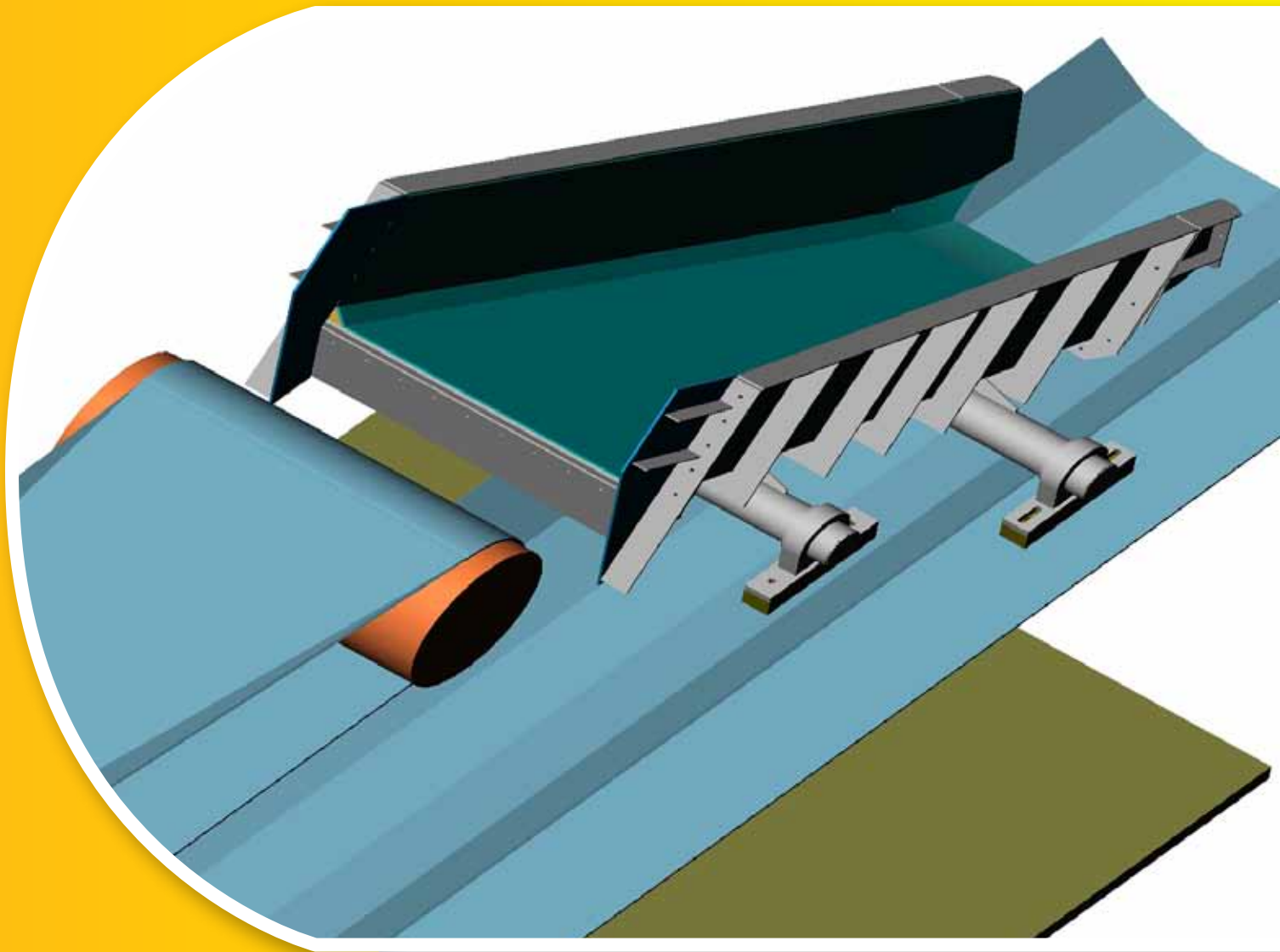
De-Watering Chutes from International Conveyors Australia Limited



International Conveyors Australia

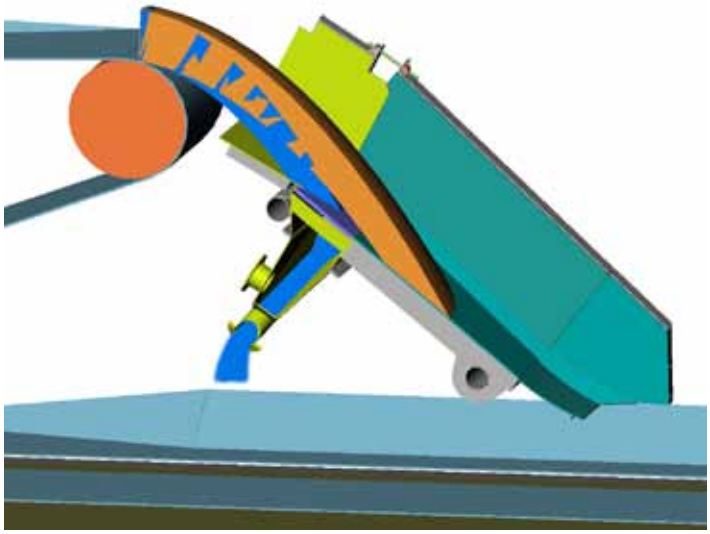
Experience Woven with technology

ICAL has entered into an exclusive marketing agreement with Gulf Conveyor Systems to market their range of de-watering transfer chute designs as part of ICAL's commitment to offer a range of quality products that are integral to the performance of the materials handling system in the coal industry. Gulf pioneered the concept of using the differential trajectories of water laden materials to remove free water from ore flows at the transfers and have numerous successful installations in the coal and other industries.

The momentum to develop these designs was due to the increasing use of longwall mining techniques wherein the longwall shearer would initially be started with water sprays activated to reduce the instance of dust at the mining face prior to the mining commencing. This created a large volume of free water that would precede the flow of coal through the conveyor system each time the shearer was re-started. When this free water came to an inclined conveyor the large volumes of water would create major spillage events. By designing transfers that could separate the free water and water laden coal fines from the main ore flow, Gulf was able to eliminate this problem. The concept is a proven, very reliable and requires minimal maintenance as it does not rely on screens or other such devices that can occlude over time.

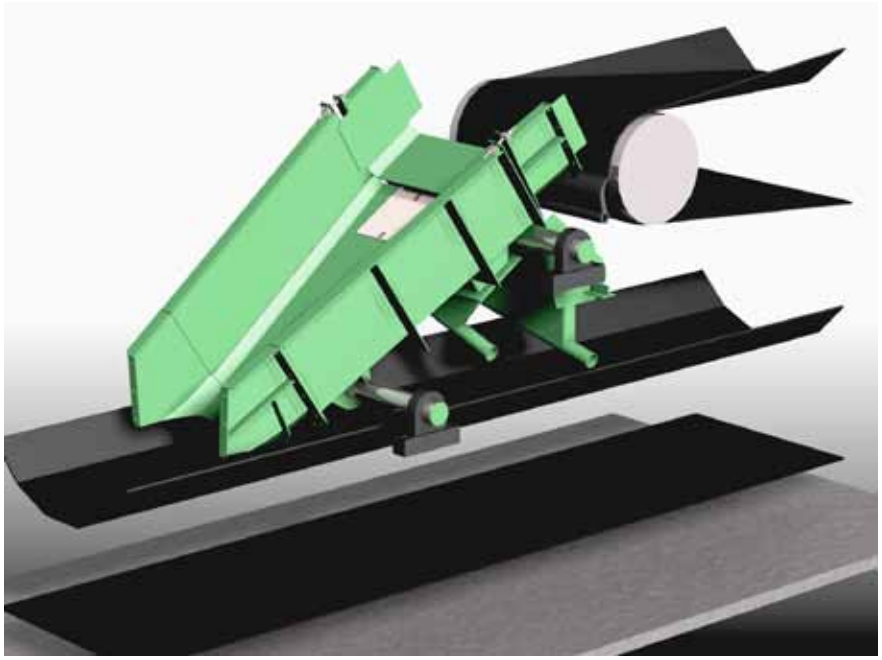
The design can be applied equally to in-line and angled transfers although more height is required if the transfer is angled. The concept can be readily retro-fitted and does not impair the normal performance expectations of a well-designed transfer. In order to assist you all we need is details of the conveyor system, where you want to put it and if there is an existing transfer, drawings of the existing transfer. From this ICAL will develop a design concept and pricing for a solution to your water management problems.

In Line De-Watering Transfer Chutes



Profile of an in-line De-Watering Transfer Chute

Note in the profile above the water laden material is taken off to a sump where any trapped fines may be recovered over time. An alternative to this, that is more expensive, is incorporating a cyclone to re-collect the entrapped fines.



Schematic of an in-line de-watering transfer chute

An actual in-line de-watering transfer, installed in a coal mine

Angled De-watering Transfer Chutes

The principles are the same but more height is required. In addition the separation is not quite as efficient. In such circumstances to achieve an optimal result two successive transfers should be utilised to achieve the required de-watering.

A typical angled dewatering transfer is pictured. This was installed in the iron ore industry.

Another quality product designed to give trouble free service to the coal mining industry