Conveying caustic material with zero dust and spillage

**Project Scope**  Standard conveyor belt and pneumatic conveying systems had proven inadequate for the job at Sibelco QMAG's magnesia products processing plant where any dust and spillage was unacceptable and extremely tight routing was absolutely essential.

**Key Data**  Sibelco QMAG's Rockhampton QLD facility is involved in the mining, beneficiation and production of deadburned, electrofused and calcined magnesia products. Raw magnesite is fed into furnaces where it is heated by natural gas to 1000°C to produce magnesia (MgO) or caustic calcined magnesium oxide (CCM) products. ContiTech recommended their SICON belt which is a closed, endless conveyor belt suitable for all types of bulk material. The blue in the pix shows its versatility including turns, lifts and declines. Approximately 300 m of SICON conveyor belting safely conveys 50 t/h of caustic calcined magnesia from plant to silos with zero dust or spillage. Because of its high flexibility the conveying route can be designed with radii of less than a metre, eliminating transfer points at corners and curves. Inclinations up to 35° are possible. The belt opens up only at loading and discharge areas and is also closed on the return trip. Therefore even sensitive material remains protected and pollution can be avoided. Several feeding and discharge areas can be installed along the conveying track and the belt can be used as two-way conveyor system, loaded in both directions, and can run through several paths back and forward. The belt is lightweight and flexible, is self-centring between guide and support rollers and is also self-cleaning.

**Summary**  “The intricacies associated with this CCM material and challenges with our plant location requirements proved too difficult for the conventional conveying systems we tried. But the SICON system is performing beautifully - we’ve had virtually no issues or problems at all”  Paul Wilson, Manager Engineering Services, for Sibelco QMAG