

Information for the press: RopeCon®. An efficient link to new mining areas.

The RopeCon® system which transports platinum ore from Booyseendal South to the existing processing plant has recently gone into operation. The South African mining company Booyseendal Platinum (Pty) Limited, a subsidiary of Northam Platinum Limited, is relying on technology by Doppelmayr for their expansion project at the Booyseendal concession. Every hour, at least 909 tons of material will be transported over a distance of approx. 4.8km through hilly terrain.

The terrain between the new mining areas to the north of the Booyseendal concession and the existing processing plant is challenging in terms of topography. In a straight line, a distance of approx. 4.8km and a difference in elevation of 530m must be covered. For the expansion of the Booyseendal mine, a cost-effective, reliable and safe means of transport was required, and Booyseendal Platinum (Pty) Limited opted for a RopeCon® system to tackle the challenge of transporting 909 tons of platinum ore.

RopeCon® is a technology developed by the ropeway manufacturer Doppelmayr. The system offers the advantages of a ropeway and combines them with the properties of a conventional belt conveyor. It essentially consists of a flat belt with corrugated side walls. Just as on conventional belt conveyors, the belt performs the haulage function. It is driven and deflected by a drum in the head or tail station and fixed to axles arranged at regular intervals to carry it. The axles are fitted with plastic running wheels which run on fixed anchored track ropes and guide the belt. The track ropes are elevated off the ground on tower structures.

The material mined at Booyseendal South is loaded onto the RopeCon® belt via a silo and two chutes. In the vicinity of the processing plant, the RopeCon is linked to the existing conveying equipment. A switch chute allows for the material either to be transferred directly onto a feeder conveyor to take it to the processing plant, or to be discharged onto a stockpile via a second, smaller RopeCon® thus creating a temporary puffer.

Booyseendal was also particularly careful to choose a transport system that would minimise the environmental footprint of the mine. Because RopeCon® is guided over towers, the only space required on the ground is for these structures, which, in the case of Booyseendal, amount to no more than 12. At the same time, the system does not represent an insurmountable obstacle for wildlife or humans. The track

crosses a number of roads, and even wildlife can roam freely underneath the RopeCon®.

Construction of the RopeCon® commenced in January 2018. 11 months later, and perfectly on schedule, commissioning began. Since 20 December, 2018, the installation has been transporting approximately 20,000 tons of platinum ore per day over a distance of 4.8km between the mining area and the existing plant.

As part of an additional expansion programme, Booyssendal awarded to Doppelmayr the contract for a second RopeCon®, which will connect with the first system and enable transport from another mining area north of the concession. The second system is designed to transport 400 tons per hour over 2.8km and a difference in elevation of -160m. It is due to start operating in early 2021.

Doppelmayr Transport Technology GmbH is a 100% subsidiary of the international Doppelmayr Group with headquarters in Wolfurt, Austria. Within the group, Doppelmayr Transport Technology is the point of contact for the transport of goods and materials. Doppelmayr is the technology leader and pioneer in ropeway engineering and is also present in other lines of business. Apart from material transport systems the group also designs, plans and manufactures passenger ropeways for winter and summer tourism as well as for the urban transit sector, rope propelled APMs (e.g., the systems currently operating at the airports of Toronto and Mexico City) or fully automatic high rise warehouses.

Technical details:

Length	4,767m
Difference in elevation	530m
Conveying capacity	909t/h
Speed	4.2m/s
Number of towers	12
Motor rating cont.	2,400kW

Stockpile Feeder

Length	185m
Difference in elevation	25m
Conveying capacity	909t/h
Speed	3.0m/s
Number of towers	1
Motor rating cont.	100kW

Contact:
Doppelmayr Transport Technology GmbH
Konrad-Doppelmayr-Straße 1
6922 Wolfurt / Austria
T +43 5574 604 1800
dttd@doppelmayr.com
doppelmayr-mts.com