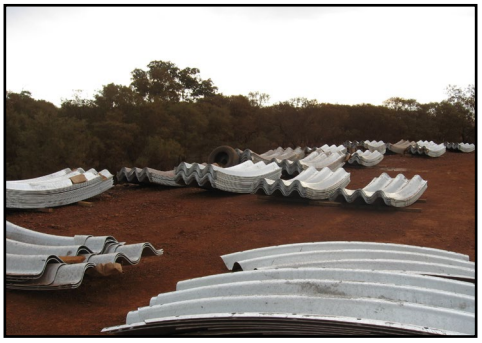
Installation Overview

Deep-corrugated plate structures

Slide 1



Erection of the structure starts with the initial sorting and layout of corrugated plate panels. Panels are easily identified by curved length or coding for plate thickness. Project: Yandi, WA, Rio Tinto.

Slide 2

Final checks are made on the cast-in base-channels. Project: Yandi, WA, Rio Tinto.

Slide 3

Erection crews commence pre-assembly of arch ‘roof’ sections in double rings. Project: Yandi, WA, Rio Tinto.

Slide 4

Continued pre-assembly of arch ‘roof’ sections in double rings. Project: Yandi, WA, Rio Tinto.

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Slide 5

Pre-assembled roof sections.
Project: Yandi, WA, Rio Tinto.

Slide 6

Initial assembly of wall sections.
Note adjustable supports both internally and externally allowing full support and adjustment. Project: Yandi, WA, Rio Tinto.

Slide 7

Manoeuvring of pre-assembled roof section with sling and guide ropes attached to existing bolt holes. This arch has a max. span of 9.4m, a rise of 6.9m and a length of 60m. Project: Yandi, WA, Rio Tinto.

Slide 8

Placement of first roof section with 7 plates around the circumference. Full support and control is maintained throughout. Project: Yandi, WA, Rio Tinto.

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Slide 9

The alignment of the bolt holes between the footing panels and the roof section. Project: Yandi, WA, Rio Tinto.

Slide 10

Bolt placement. Project: Yandi, WA,Rio Tinto.

Slide 11

Final assembly of the first two full rings, full support maintained throughout. Full dimensional checks are made with site engineer. Project: Yandi, WA, Rio Tinto.

Slide 12

Completion of arch. Project: Yandi, WA, Rio Tinto.

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Slide 13

Detail of stepped bevelled-end treatment. Project: Yandi, WA, Rio Tinto.

Slide 14

Backfilling has reached the critical ‘shoulder’ stage. Roundel site engineer typically in attendance at this stage. Project: Yandi, WA, Rio Tinto.

Slide 15

Only light compaction tools are used for the fill directly over the crown of the arch until adequate cover has been achieved (a minimum of 600mm but dependent on construction loading). Project: Yandi, WA, Rio Tinto.

Slide 16

The Critical Backfill Zone can be clearly seen around the arch and alongside the general embankment fill. Heavy construction loads must be kept out of this area until minimum construction covers are achieved. Project: Yandi, WA, Rio

Slide 17

Alternative compaction methods at minimal cover.Project: Gibihi Road, Moura, QLD, Anglo Coal

Slide 18

Spread and compaction of fill materials running perpendicular to the arch. Gibihi Road, Moura, QLD, Anglo Coal.

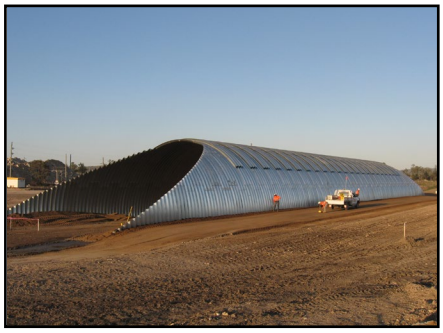
Slide 19

Compaction of fill materials running perpendicular to the arch. Gibihi Road, Moura, QLD, Anglo Coal.

Slide 20

Backfilling over the top of the structure with minimum cover achieved. Heavier construction equipment now being used. Project: Yandi, WA, Rio Tinto.

Slide 21



Large-span arch, haul road crossing, Dawson Coal Mine, Anglo Coal, QLD. Max. span 13.0m, rise 7.35m, length 84m.

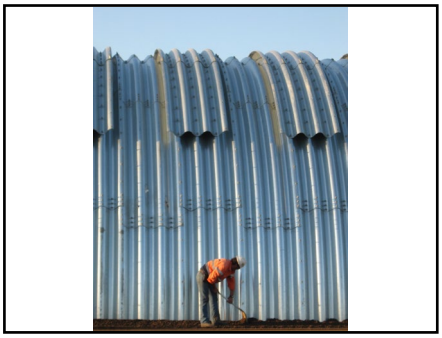
Slide 22

Detail of large-span arch, haul road crossing, Dawson Coal Mine, Anglo Coal, QLD. Note double ribs; these are back-to-back ribs and are not concreted.

Slide 23

Double ribs detail.

Slide 24



Detail of double rib – Gibihi Road, Dawson, Moura, QLD