



GEOFABRICS CASE STUDY



GABION-FACED WALL SUPPORTS HEAVY LOADS AT ACT QUARRY

PRODUCTS USED

WIRE MESH GABION SYSTEM

- A modular wire mesh system, designed to create angled rock-face finish at angles up to 87 degrees
- Manufactured for an expected working life of up to 120 years
- High-grade polymer-coated wire mesh provides exceptional corrosion resistance and structural strength, ensuring reliable performance in harsh climates

SUGGESTED PRODUCTS

Geofabrics® Geomesh™ Gabion wire mesh system

PROJECT DESCRIPTION

At Hall Quarry in the Australian Capital Territory, a 10 metre high Mechanically Stabilised Earth (MSE) wall was needed to retain fill on either side of the primary crusher. The wall had to be installed quickly, use readily available on-site materials, and accommodate highly irregular foundation conditions.

It also needed to withstand heavy dump truck loads and constant vibration from the crusher and blasting in the open pit. The client determined that only a wire mesh gabion system could meet these demanding site requirements.

OUR SOLUTION

The system featured a gabion-type facing with integral woven mesh reinforcement that extended into the backfill, forming a stable, reinforced block. By increasing the shear strength of the fill, this design ensured a durable and robust structure. To maximise long-term corrosion resistance, the woven mesh was coated with a zinc–aluminium alloy and finished with a 0.5 millimetre thick polymer layer.

A site inspection conducted in May 2005, ten years after construction confirmed the structure's excellent long-term performance. The mesh remained in outstanding condition, the polymer coating showed no signs of degradation, and the gabion facing exhibited no evidence of fatigue or overstress. A quarry spokesperson expressed high satisfaction with the wall's performance.

A follow-up inspection in March 2019 reinforced these findings, with the client once again confirming their ongoing satisfaction with the durability and effectiveness of the MSE wall.

To date, hundreds of MSE walls using the wire mesh gabion system have been built across Australia, reaching heights up to 22 metres high, with vertical walls exceeding 32 metres constructed internationally using this proven solution.

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