



MINING AND MINERALS TRAINING

Blast Vibration, Flyrock and Environmental Control

3 day course

Classroom, online or in-house

Course overview

A blast that breaks rock well can still be a serious failure if it throws material beyond the exclusion zone or shakes a village that was already unhappy about the mine. This course covers the consequences outside the pit. Delegates work through vibration propagation, peak particle velocity and the scaled distance relationship that lets a charge mass be set against a limit. Structural damage criteria are addressed, alongside the fact that human perception starts far below the damage threshold, which is why complaints arrive at compliant sites. Airblast and overpressure are covered. Flyrock is treated in detail: its causes in burden, stemming and geology, the exclusion zone calculation and the incidents that follow from a face nobody measured. Blast design controls follow, including initiation timing, decking and charge distribution. Monitoring and record keeping are addressed. Community engagement is covered as a control rather than an afterthought. The course closes on complaint investigation, on dust and fume, and on regulatory limits.

What you will learn

- Apply scaled distance to set charge mass against a vibration limit
- Compare structural damage criteria with human perception thresholds
- Control airblast and overpressure
- Identify the burden, stemming and geological causes of flyrock
- Calculate exclusion zones and verify face conditions before charging
- Use timing, decking and charge distribution to control effects
- Monitor, engage the community and investigate complaints

Who should attend

- Blasting engineers and shotfirers
- Drill and blast supervisors
- Environmental officers at mines and quarries
- Community liaison officers
- Regulators and inspectors of explosives

Course outline

- 01 Consequences outside the pit
- 02 Vibration propagation and peak particle velocity
- 03 Scaled distance and charge mass
- 04 Damage criteria against human perception
- 05 Airblast and overpressure
- 06 Flyrock causes and exclusion zones
- 07 Face measurement before charging
- 08 Timing, monitoring, community engagement and complaints

Upcoming dates

Dates	Venue	Format	Fee per delegate
30 September to 2 October 2026	Lagos, Nigeria	Classroom	USD 995
30 November to 2 December 2026	Pretoria, South Africa	Classroom	R14,950
10 to 12 February 2027	Online	Online	R6,500



Fees and how to register

This 3 day course is **R6,500** per delegate online, **R14,950** in the classroom in South Africa, Botswana, Namibia, Lesotho and Eswatini, and **USD 995** in the classroom elsewhere in Africa. In-house training is quotation on request. Book 2 or more delegates on this course and save 10%.

To register or request an in-house proposal, visit www.afrisciencegroup.com, email info@afriscience.co.za, or WhatsApp us on **+27 63 479 1136**.

AfriScience Group | +27 61 536 6531 | info@afriscience.co.za | Pretoria, Gauteng, South Africa