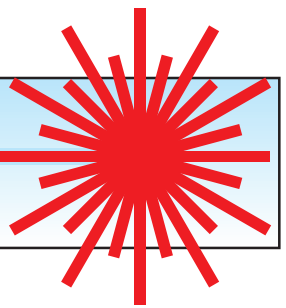


afgen **LASER**
PRODUCTS



Truline

Mining Laser



and

Laser Square *

* S.A. Patent Number 99/5175

Mining Development Tool



A New and Unique Mining Development System

for Extending Lines and Turning off Angles

in all Mining Development Applications



- Simply, Quickly, Accurately and Economically.

Truline Laser and Laser Square

afgen LASER PRODUCTS



The **Truline Laser** with suspension hooks, is used to extend lines by projecting a bright laser spot (or line) on to the Roof/ Hanging Wall or Face by suspending it from two survey pegs.



The **Laser Square** is used to turn off angles at all Breakaways/ Splits.

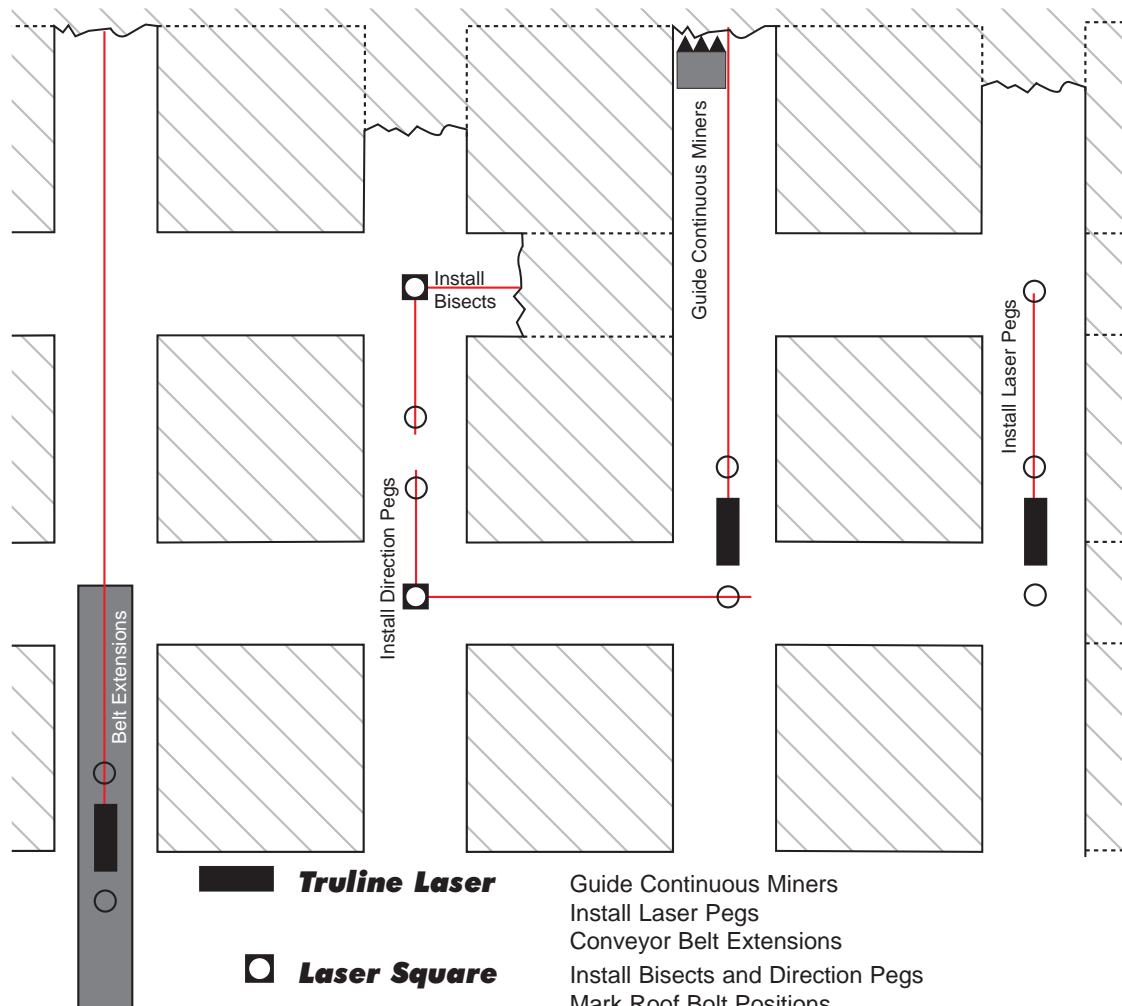
It is fitted to the **Truline Laser** and the system is suspended vertically from a spad in the Roof/ Hanging Wall at the required position of the Breakaway/ Split.

Two lines of laser light are projected from the **Laser Square**.

One line is sighted onto a backsight peg and the other is projected at the desired angle (90, 80, 70, 60 degrees etc.) throwing a reference line on to the Roof/ Hanging Wall and Face for all development requirements.

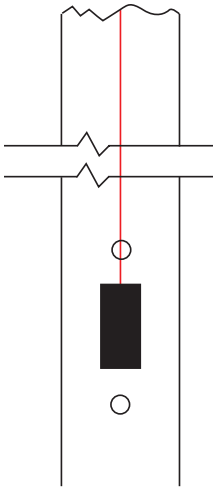


Some uses in Coal Mines and Bord and Pillar Mining

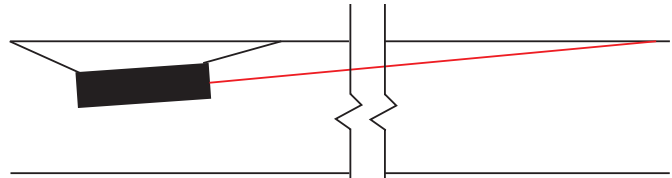


- Quickly, Accurately and Easily.

The **Truline Laser** for Extending Lines and Installing Pegs

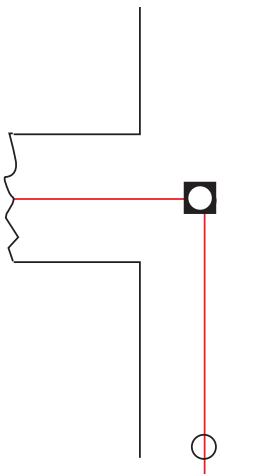


Use to Extend lines in all Development and ASG's and where the gradient is determined by the reef plane

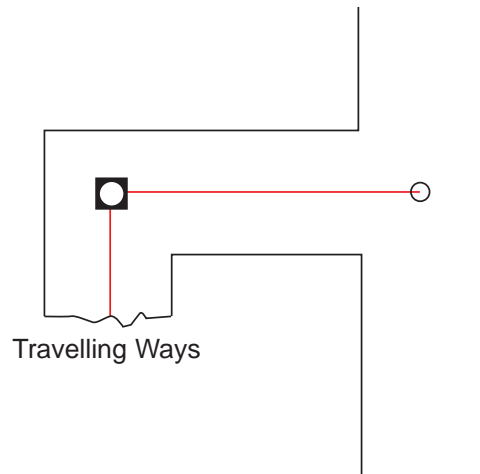


Install pegs in ASG's

The **Truline Laser** and **Laser Square** for Breakaways



Use to turn off the required angles in all Breakaways - Boxholes, Raises, Winzes, ASG's and Crosscuts.

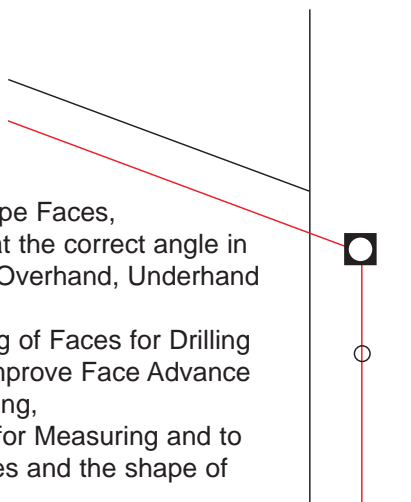


Travelling Ways

The **Truline Laser** and **Laser Square** for Stopes

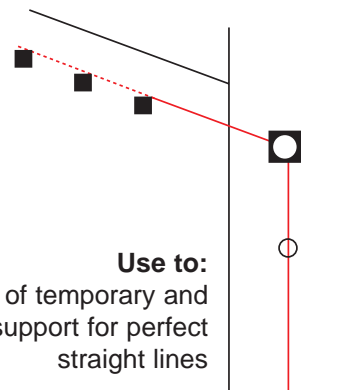
Use to:

- mark and offset Stope Faces,
- align Stope Faces at the correct angle in Up Dip, Down Dip, Overhand, Underhand and Breast mining,
- assist in the marking of Faces for Drilling (Drilling Angle) to improve Face Advance through correct drilling,
- as a reference line for Measuring and to check reference lines and the shape of the Face



Use to:

- Install all forms of temporary and permanent support for perfect straight lines



Some Advantages of using the **Truline Laser** and **Laser Square**



In Coal Mines

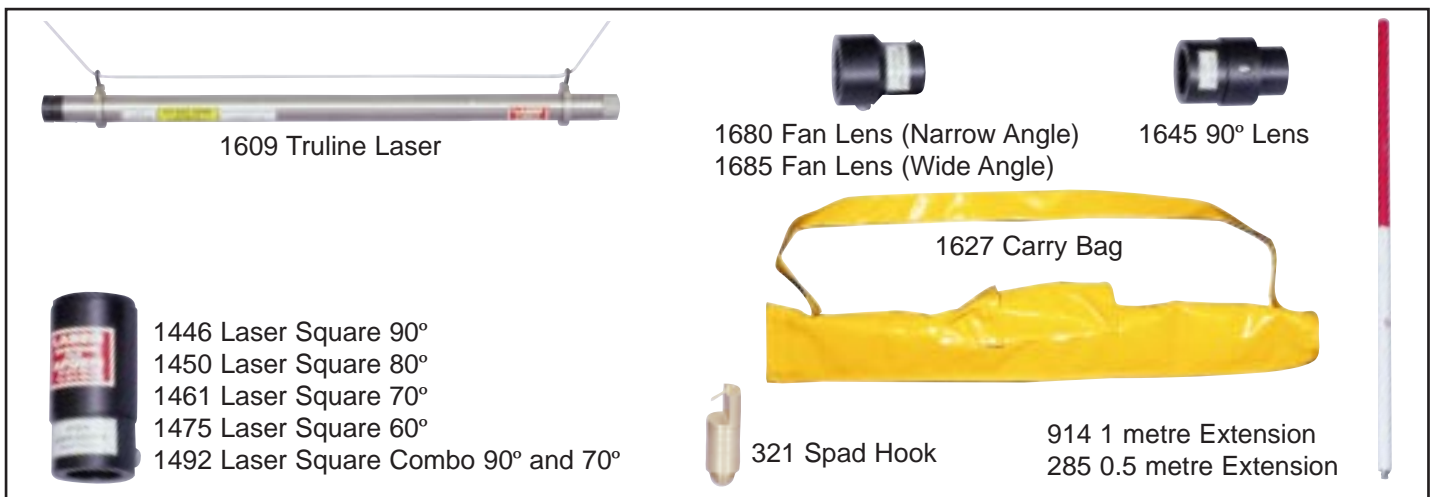
- Miners can extend their own pegs
- no waiting for Surveyors.
- Quick and accurate installation of Direction pegs.
- Quick and accurate marking of Bisects.
- Help keep Pillars the correct size and shape.

In Gold and Platinum Mines

- Miners can extend their own pegs in ASG's
- no waiting for Surveyors.
- Quick and accurate marking of Breakaways.
- A new and fast means of marking the Face.
- Improve Face advance through correct drilling.

In All Mines

- Straight extension of all lines - dramatically reducing costs resulting from off-line development in ASG's, winzes, raises, drives, bord and pillar mining, etc.
 - No communication problems, one man operation.
 - Mark Roof Bolt positions in straight lines and grids.
- Extremely quick and much faster than setting up and using a surveying instrument.
 - Weighs less than 1kg.
- No need for extra people to carry heavy instruments, tripods and accessories.



Truline Laser

Output Power: Less than 5mW
 Wave Length: 650nm
 Input Power: 3V DC
 (2 x AA 1.5V DC Batteries)
 Effective Range: 150 metres
 Casing: Stainless Steel
 Length: 550mm
 Diameter: 26mm (without hooks)
 Mass: 0.6kg
 Class III A Laser Product
 SABS Approved for use in Hazardous Locations
 Approval Number: M/S08 X

MADE IN SOUTH AFRICA

Specifications

Designs and specifications are subject to change without prior notice.

Laser Square*

* S.A. Patent Number 99/5175
 Length: 80mm
 Diameter: 40mm
 Mass: 0.2kg
 Casing: Plastic
 Angles: 90°
 80°
 70°
 60°
 Combination 90° and 70°

AFGEN has designed, manufactured and marketed laser systems for mining, tunnelling and industrial uses for more than 20 years. We have won several Design Awards for our products and were first selected as one of South Africa's Top 100 Technology Companies in 1992. Our mission is to continue to create innovative, quality designed and manufactured products that enhance the working environment.

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