

MINE SAFETY DEVICES

Deebar have developed a range of Station Stopping Devices as well as shaft gate locks which electrically and mechanically interlock the Shaft Bells to the Safety Devices, this system is covered by Patents and ensures complete safety.



SLAM-IT GATE LOCK (PATENT NO. 2005/07038)

The "Slam-It" Station Gate Lock is designed specifically to prevent a double operation e.g. Once the Onsetter / Banksman has rung the conveyance away he can enter the conveyance and pull the Station Gate closed which then automatically locks the Station Gate. The Slam-It lock can be interlocked to the Winder Safety Circuit by means of the integrated magnetic switch. Additional contacts on the magnetic switch can be used to monitor the status of the gate i.e. open or closed.

- The entire lock is manufactured from stainless steel.
- Avoids unauthorised entry.
 - Access from both sides.
 - Tamperproof.
 - Low Maintenance.

Product Code:	Description:
*9148.15	Slam-It Gate Lock w/o Reed Switch
*9148.17	Slam-It Gate Lock c/w Reed Switch
*9148.02	Slam-It Gate Lock Key
*9148.20	Reed Switch for Slam-It



LOCK-IT GATE LOCK

The "Lock-It" Gate Lock is similar to that of the Slam-It except it has the facility to Interlock the Station Gate with the Belltronic Lockbell unit, thus increasing the safety in the shaft area.

Additional contacts on the magnetic switch can be used to monitor the status of the gate i.e. open or closed.

The entire lock is manufactured from stainless steel.

Product Code:	Description:
*9148.07	Lock-It c/w PP Lock & Key
*9148.25	Lock-It c/w Fortress Lock & Key



DEELOCK UNIT (PATENT NO. 98/8180)

This Unit interlocks the Bell System with various Station Safety Devices to prevent the unintentional opening and closing of safety devices to the shaft, thus providing safety when moving underground vehicles in the shaft area.

The Deelock Safety System has been designed to ensure that the responsible person (Onsetter/Banksman) follows a set procedure when operating safety devices on the specific Station. The system also ensures that the responsible person cannot leave the Station if the safety devices are not in a safe position.

When ordering quote 9000... followed by the key number required

Product Code:	Description:
*9000.02	Single Unit (N)
*9000.01	Double Unit (N)
*9000.__	Standard (A)



2 MAN LOCKOUT SYSTEM

The 2-Man Safety Lockout System is designed to prevent a designated area from being accessed by no less than two people at any one time. The Gate Access Key is fitted to the door of the sub-station and is normally trapped.

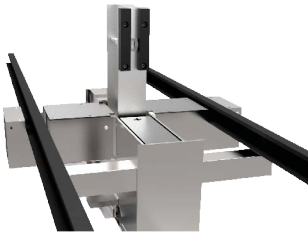
Two different keys are required to gain access to the designated area. Keys held by the Electrician and the other Key held by the Foreman, these need to be inserted and locked in, after which two push buttons need to be activated (pushed) simultaneously. This action will then release the Gate Access Key, which in turn releases the Gate/Door Key unlocking the Gate/Door and releasing the trapped safety key of the authorised person.

Both Keys will remain trapped until the Gate/Door is locked and the key returned to its original position.

When ordering, quote Product Code 3000... and a unique Key series will then be allocated to your institution. When ordering replacement spares, quote 3000... followed by the Key number required.

Product Code:	Description:
*3000.__	2 Man Lockout System

DEEBAR STATION STOP BLOCK



Station Stopping Devices can be installed on each underground level & bank providing safety when moving rolling stock in the shaft area.

The unit is extremely robust, manufactured from structural steel; the device can be coupled to a centre column or used independently.

The centre column incorporates Belltronics (shaft bells) which electro mechanically interlocks the Station Stopping Device to the Deelock Safety System for maximum shaft safety.

The Station Stopping Device can be operated manually or pneumatically.

This product is site specific and therefore each enquiry will require a detailed quotation.

INTERLOCKING PANEL



The Stop Blocks are interlocked with the lockbell system, and therefore the conveyance has to be positioned on the bank or underground stations to operate the Stop Blocks. The onsetter / banksman will only be able to operate the Stop Block system once the onsetter's / banksman's key is placed and turned on in the lockbell system.

A push button on the Deebar Interlocking Panel will activate the pneumatic solenoid switch which in turn will activate the direction control valve for up or down movement of the stop blocks.

PNEUMATIC PANEL



The Deebar Stop Block shaft safety device is pneumatically operated, interlocked with the lockbell (Belltronics) and provides the ultimate in shaft safety during loading and off-loading operations as well as slinging operations. These operations are all controlled via the Deebar Interlocking Panel that is situated adjacent to the lockbells (Belltronics).

The Interlocking Panel activates the equipment in the Pneumatic Panel which consists of a Solenoid and a FRL (Filter / Regulator / Lubricator).

MAKE YOUR STATION SAFE

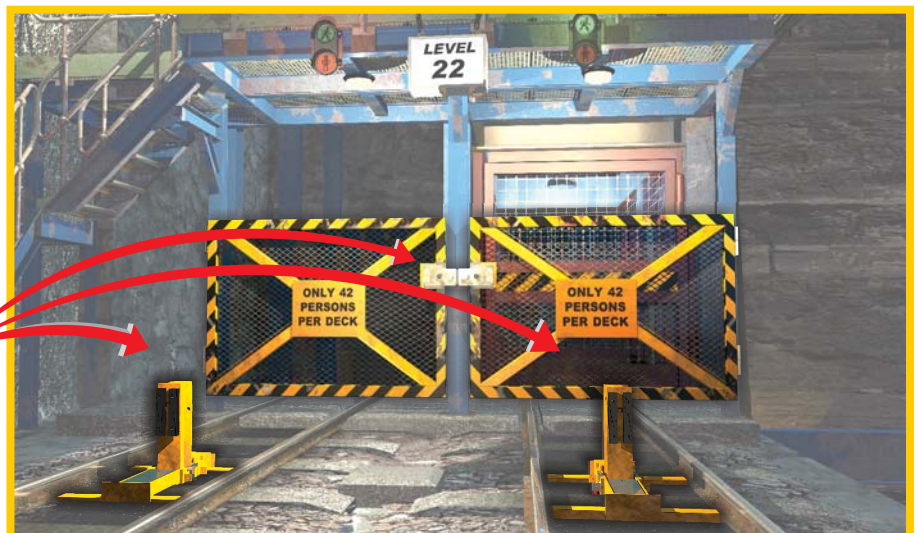
1 INTERLOCK YOUR STANDARD SHAFT LOCKBELLS



TO THE DEEBAR INTERLOCKING PANEL



3 TO ENSURE AUTHORISED AND SAFE OPERATION OF YOUR STATION SAFETY DEVICES



D.A.M GARD

Mine Farm Gate Lock



The new D.A.M Gard Farm Gate Lock can be fitted to mining Farm Gates and can be interlocked to the Shaft Signalling Unit and the Interlocking Panel to provide the ultimate in safety.

The lock is a heavy-duty Fortress Amgard lock that has been tested to over 1 million operations and is rated IP67.

The heavy-duty tongue unit has a misalignment tolerance of +/- 12mm and locks into the head with a Retention Force of 10 000 N

The lock is encased in a robust steel housing for added protection.

The key to operate the D.A.M Gard Farm Gate lock is the authorised Onsetter's key, which ensures that the gate is operated by the authorised person.

- Tamperproof
- Low Maintenance
- Avoids unauthorised entry
- Trapped Key Interlocking ensures Safe Operation
- The farmgate is Interlocked to the Shaft Belltronics via the Deebars D.A.M Gard
- Rated IP67



NEW

Station Stopper

Deebar have officially been appointed the Distributor of the **Technopost**[®] Station Stopping Device.

FEATURES OF THE TECHNOPOST[®]:

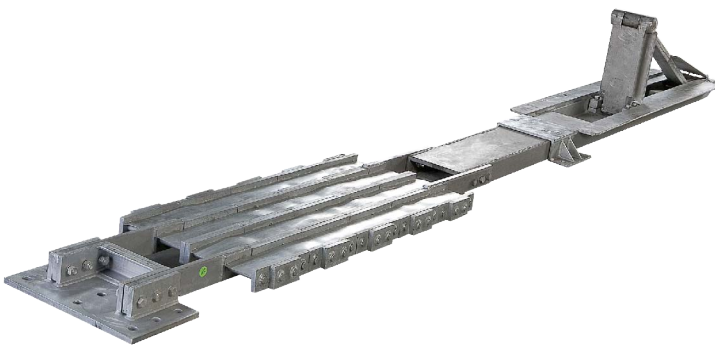
- Minimal excavations
- Technopost[®] is installed between the rails
- Minimal drainage requirements
- Controlled deceleration (less than 1g)
- Low maintenance
- Easy to install
- Can be retrofitted
- Cost effective
- Impact energy is safely dissipated
- Only the Technogrid[®] itself and the drive shaft need replacing after a full impact
- Over 200 units have been supplied in South Africa
- Technopost[®] is approved by most mining houses in South Africa
- 3 options available:
 - 60kJ Technopost[®]
 - 120kJ Technopost[®]
 - 300kJ Technopost[®]

At the heart of the station stopper device, is the **Technogrid**[®] energy absorbing system. Each **Technopost**[®] station stopper has one **Technogrid**[®] unit centrally mounted flush between the rails. One end of the **Technogrid**[®] is anchored to the footwall. The “impact post” is attached to the other end.

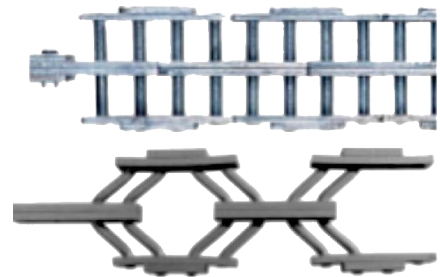
The **Technogrid**[®] is a strain energy absorption device that will absorb the kinetic or potential energy of a moving object by deforming a metal grid of known design and characteristics through a stroke deformation of predicted value.

The impact post is designed to fold flat between the rails to allow traffic flow. The control of the system can be interlocked into the existing station stopping devices and cage winder interlocking systems.

Technopost [®] Option	Straight track length required for installation	Maximum width of Technopost [®]	Stroke length on impact	Installation depth from top to rail
120kJ	6.4m	690mm	500mm	120mm
300kJ	10.5m	540mm	1 500mm	120mm
120kJ short	4.1m	690mm	500mm	220mm



Technogrid[®] before and after impact



The impact post is always in the up position and has to be lowered by activating a solenoid valve to allow traffic to pass over the device. If the power source is interrupted while the impact post is in the lowered position, the impact post will automatically fail to the safe ‘up position’. During an impact, the drive shaft will ‘shear off’ and allow the **Technogrid**[®] to ‘open up’.

On request from the client, **Technogrid**[®] will certify the **Technoposts**[®] after installation to ensure that the units are installed correctly and audit the **Technopost**[®] on an annual basis.



Loco has not derailed after impact