



**PDHonline Course C262 (5 PDH)**

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# **Rock Blasting Fundamentals**

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## Dual Delay & Trunk Line (TL)

### Blast Initiation System



The ZipDet® Dual Delay detonator consists of a length of shock tube with an in-hole detonator on one end and a surface connector on the other.

The ZipDet® TL consists of a length of shock tube with a surface connector and is available in a range of delay times. The ZipDet® connector has been designed with an anti-slip grip which is easy to handle in cold weather.

The ZipDet® coil is easy to deploy and is tangle free.

#### ZipDet® Trunk Line(TL)

| Millisecond | Block Color |
|-------------|-------------|
| 9           | Green       |
| 17          | Yellow      |
| 25          | Red         |
| 42          | White       |
| 67          | Blue        |
| 100         | Black       |

#### ZipDet® Dual Delay

| Delays-MS | Block Color |
|-----------|-------------|
| 17/325    | Yellow      |
| 17/350    | Yellow      |
| 17/375    | Yellow      |
| 17/500    | Yellow      |
| 25/325    | Red         |
| 25/350    | Red         |
| 25/375    | Red         |
| 25/475    | Red         |
| 25/500    | Red         |
| 25/700    | Red         |
| 42/700    | White       |

(Other timing combinations also available)



ZipDet® Connector will reliably initiate 1 to 4 Tubes

There are 2 sub packs in each case and the sub packs are divided into 2 cubes. The sub packs are legal shipping containers and can be removed for individual shipping. Every layer within the cube is divided by a fiberboard separator for easy counting.

**Transportation** Detonator Assemblies, non-electric, Classification UN 0361, Class 1.4B.

**MSI**

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## Packaging Information

### ZipDet® Dual Delay

| Feet | Meters | Units per box | Units per sub pack | lbs | kg   | NEQ per box |
|------|--------|---------------|--------------------|-----|------|-------------|
| 8    | 2.8    | 160           | 80                 | 35  | 16   | 0.37 lbs    |
| 12   | 3.6    | 160           | 80                 | 34  | 15.5 | 0.37 lbs    |
| 16   | 4.9    | 160           | 80                 | 40  | 18   | 0.37 lbs    |
| 20   | 6.1    | 160           | 80                 | 42  | 19   | 0.37 lbs    |
| 24   | 7.3    | 144           | 72                 | 42  | 19   | 0.33 lbs    |
| 30   | 9      | 128           | 64                 | 36  | 16   | 0.30 lbs    |
| 40   | 12     | 96            | 48                 | 40  | 18   | 0.22 lbs    |
| 50   | 15     | 72            | 36                 | 38  | 17   | 0.17 lbs    |
| 60   | 18     | 72            | 36                 | 39  | 17.7 | 0.17 lbs    |
| 80   | 24     | 60            | 30                 | 41  | 18.6 | 0.14 lbs    |
| 100  | 30     | 48            | 24                 | 41  | 18.6 | 0.11 lbs    |

### ZipDet® Trunkline

| Feet | Meters | Units per box | Units per sub pack | lbs  | kg | NEQ per box |
|------|--------|---------------|--------------------|------|----|-------------|
| 8    | 2.8    | 160           | 80                 | 22   | 10 | 0.09 lbs    |
| 12   | 3.6    | 160           | 80                 | 24   | 11 | 0.09 lbs    |
| 20   | 6.1    | 160           | 80                 | 29   | 13 | 0.09 lbs    |
| 30   | 9      | 144           | 72                 | 28.5 | 13 | 0.08 lbs    |
| 40   | 12     | 96            | 48                 | 26.5 | 12 | 0.05 lbs    |
| 50   | 15     | 72            | 36                 | 25   | 11 | 0.04 lbs    |
| 60   | 18     | 72            | 36                 | 30   | 14 | 0.04 lbs    |

Case Size 23" X 16.5" X 14.75" (584mm X 419mm X 375mm)



For further information about ZipDet® or any of MSI'S products and Services Please contact your local agent through [www.miningservices.com](http://www.miningservices.com)

or call:

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