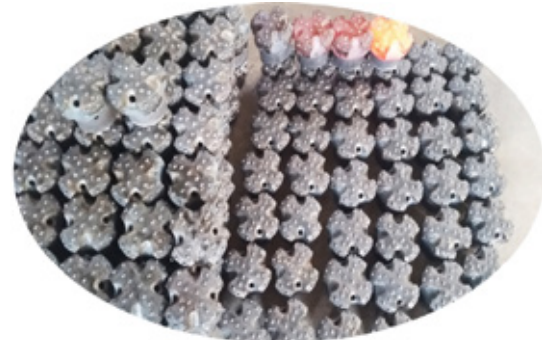
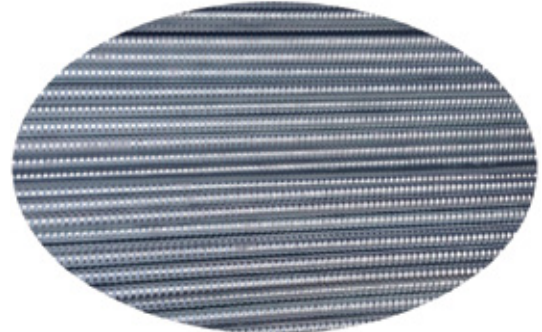
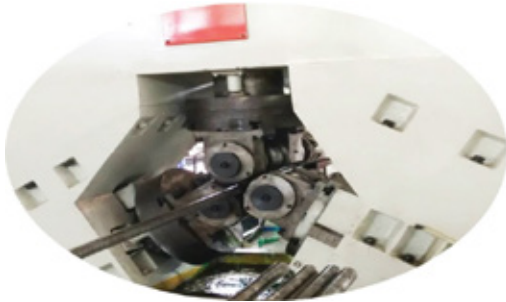


# Self Drilling Anchor System



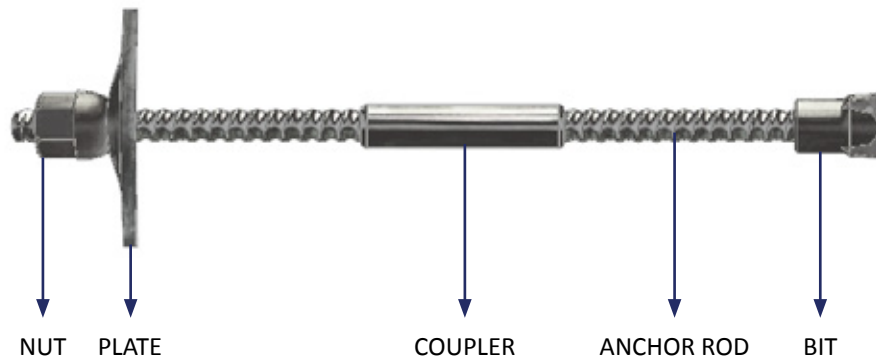
**IDE** INTERNATIONAL  
DRILLING  
EQUIPMENT

## Processing Images



# SDAS

## Self Drilling Anchor System



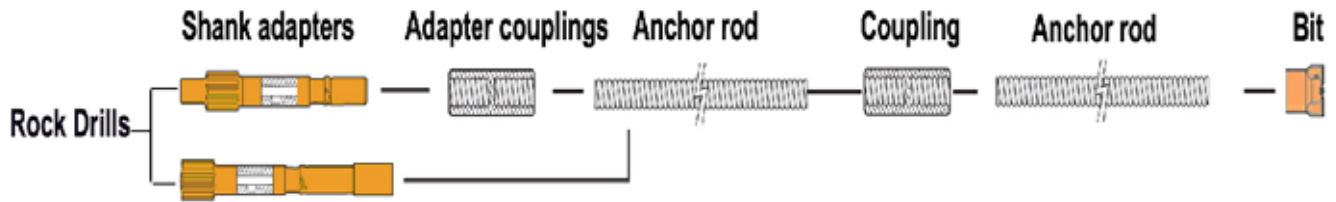
### Application

Self drilling anchor system is mainly used in slope stabilization, tunneling pre-support, foundations with micropiles, it is also widely used in the railway system, metro project etc. It can be installed in sites with weak rocks, loose soil, weathered layer, sand with stone layer and so difficult to create a hole in complex formations. The unconsolidated ground condition favor the self-drilling anchor bolt technique for fast and simple method of installation compared to the traditional method.



### Features

1. Self drilling anchor system has two performances: drilling and grouting. It features a hollow bore for flushing, or simultaneous drilling and grouting.
2. Self drilling anchor system is reliable, efficient and convenient, which makes high piling output possible.
3. We can also make the Hot-Dip Galvanizing Corrosion Protection according to EN ISO1461.



## R25

### Anchor rods

| Size    | O.D(mm) | I.D(mm) | Ultimate Load(KN) | Yield Load(KN) | Weight(kg/m) |
|---------|---------|---------|-------------------|----------------|--------------|
| R25N-14 | 25.0    | 14.0    | 200               | 150            | 2.3          |

### Anchor couplers

| Size | Length(mm) | O.D(mm) | Weight(kg) |
|------|------------|---------|------------|
| R25N | 150.0      | 36.0    | 0.6        |

### Anchor nuts

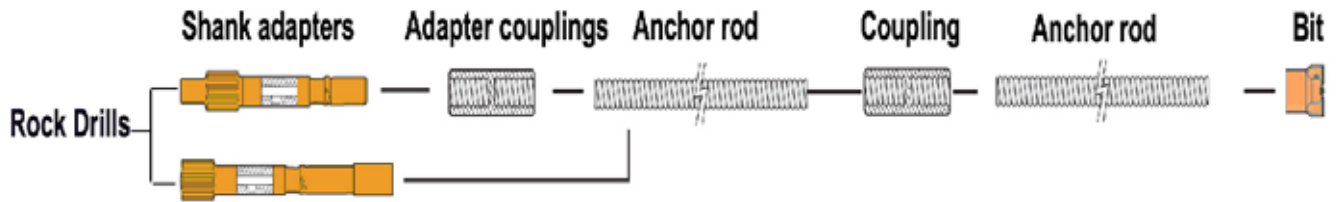
| Size | Length(mm) | Key Size(mm) | Weight(kg) |
|------|------------|--------------|------------|
| R25N | 35.0       | 41.0         | 0.3        |

### Anchor plates

| Size | Dimensions(mm) | Thickness(mm) | Hole Diameter(mm) | Weight(kg) |
|------|----------------|---------------|-------------------|------------|
| R25N | 150x150        | 8.0           | 27.0              | 1.4        |
|      | 200x200        | 10.0          | 32.0              | 3.1        |

### Bit adapters

| Size    | Length(mm) | Outside Thread | Inside Thread | Weight(kg) |
|---------|------------|----------------|---------------|------------|
| R25-R32 | 50.0       | R32            | R25           | 0.1        |



## R32

### Anchor rods

| Size      | O.D(mm) | I.D(mm) | Ultimate Load(KN) | Yield Load(KN) | Weight(kg/m) |
|-----------|---------|---------|-------------------|----------------|--------------|
| R32L-22   | 32.0    | 22.0    | 210               | 170            | 2.8          |
| R32N-21   | 32.0    | 21.0    | 280               | 230            | 2.9          |
| R32N-18.5 | 32.0    | 18.5    | 280               | 230            | 3.4          |
| R32S-17.5 | 32.0    | 17.5    | 360               | 280            | 3.5          |
| R32S-15.5 | 32.0    | 15.5    | 405               | 350            | 3.8          |

### Anchor couplers

| Size | Length(mm) | O.D(mm) | Weight(kg) |
|------|------------|---------|------------|
| R32L | 145.0      | 42.0    | 0.7        |
| R32N | 160.0      | 42.0    | 0.8        |
| R32S | 190.0      | 42.0    | 0.9        |

### Anchor nuts

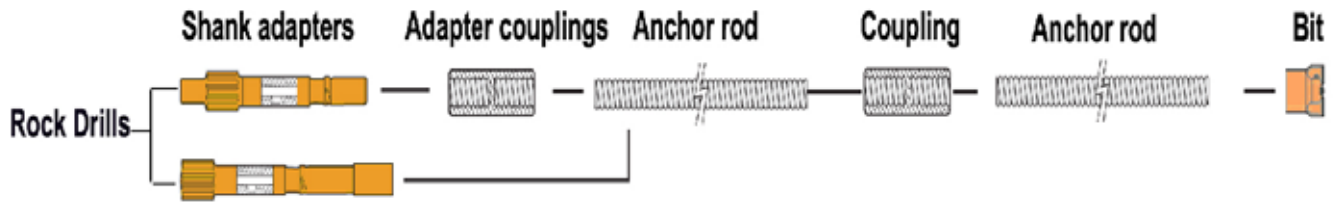
| Size | Length(mm) | Key Size(mm) | Weight(kg) |
|------|------------|--------------|------------|
| R32  | 45.0       | 46.0         | 0.35       |
| R32  | 65.0       | 46.0         | 0.45       |

### Anchor plates

| Size | Dimensions(mm) | Thickness(mm) | Hole Diameter(mm) | Weight(kg) |
|------|----------------|---------------|-------------------|------------|
| R32  | 150x150        | 8.0           | 35.0              | 1.4        |
|      | 200x200        | 10.0          | 35.0              | 3.1        |
|      | 200x200        | 12.0          | 35.0              | 3.6        |

### Bit adapters

| Size    | Length(mm) | Outside Thread | Inside Thread | Weight(kg) |
|---------|------------|----------------|---------------|------------|
| R32-R38 | 50.0       | R38            | R32           | 0.1        |



## R38

### Anchor rods

| Size    | O.D(mm) | I.D(mm) | Ultimate Load(KN) | Yield Load(KN) | Weight(kg/m) |
|---------|---------|---------|-------------------|----------------|--------------|
| R38N-19 | 38.0    | 19.0    | 500               | 400            | 5.5          |
| R38N-21 | 38.0    | 21.0    | 500               | 400            | 4.8          |

### Anchor couplers

| Size | Length(mm) | O.D(mm) | Weight(kg) |
|------|------------|---------|------------|
| R38  | 180.0      | 51.0    | 1.4        |
| R38  | 220.0      | 51.0    | 1.7        |

### Anchor nuts

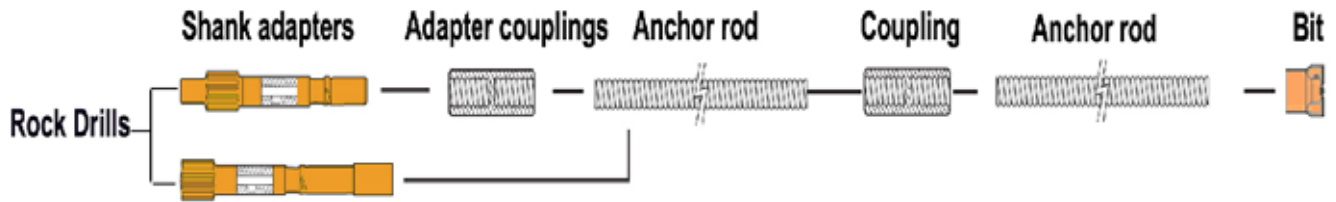
| Size | Length(mm) | Key Size(mm) | Weight(kg) |
|------|------------|--------------|------------|
| R38  | 60.0       | 50.0         | 0.5        |

### Anchor plates

| Size | Dimensions(mm) | Thickness(mm) | Hole Diameter(mm) | Weight(kg) |
|------|----------------|---------------|-------------------|------------|
| R38  | 200x200        | 12.0          | 41.0              | 3.6        |

### Bit adapters

| Size    | Length(mm) | Outside Thread | Inside Thread | Weight(kg) |
|---------|------------|----------------|---------------|------------|
| R38-R51 | 50.0       | R51            | R38           | 0.2        |



## R51

### Anchor rods

| Size    | O.D(mm) | I.D(mm) | Ultimate Load(KN) | Yield Load(KN) | Weight(kg/m) |
|---------|---------|---------|-------------------|----------------|--------------|
| R51L-36 | 51.0    | 36.0    | 550               | 450            | 7.6          |
| R51L-38 | 51.0    | 38.0    | 550               | 450            | 6.0          |
| R51N-33 | 51.0    | 33.0    | 800               | 630            | 8.4          |
| R51N-36 | 51.0    | 36.0    | 800               | 630            | 7.6          |

### Anchor couplers

| Size | Length(mm) | O.D(mm) | Weight(kg) |
|------|------------|---------|------------|
| R51  | 140.0      | 63.0    | 1.4        |
| R51  | 220.0      | 63.0    | 1.9        |

### Anchor nuts

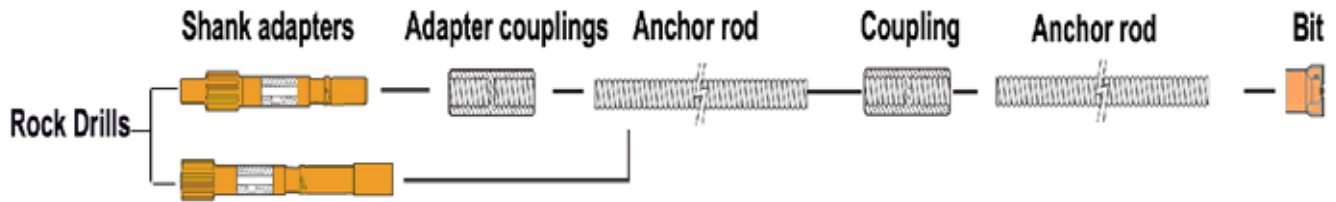
| Size | Length(mm) | Key Size(mm) | Weight(kg) |
|------|------------|--------------|------------|
| R51  | 70.0       | 75.0         | 1.55       |

### Anchor plates

| Size | Dimensions(mm) | Thickness(mm) | Hole Diameter(mm) | Weight(kg) |
|------|----------------|---------------|-------------------|------------|
| R51  | 200x200        | 30.0          | 60.0              | 8.8        |
| R51  | 250x250        | 40.0          | 60.0              | 18.5       |

### Bit adapters

| Size    | Length(mm) | Outside Thread | Inside Thread | Weight(kg) |
|---------|------------|----------------|---------------|------------|
| R51-T76 | 50.0       | T76            | R51           | 0.2        |



## T76 / T111

### Anchor rods

| Size     | O.D(mm) | I.D(mm) | Ultimate Load(KN) | Yield Load(KN) | Weight(kg/m) |
|----------|---------|---------|-------------------|----------------|--------------|
| T76N-52  | 76.0    | 52.0    | 1600              | 1200           | 16.5         |
| T76S-45  | 76.0    | 45.0    | 1900              | 1500           | 19.7         |
| T111L-85 | 110.0   | 85.0    | 2640              | 2000           | 25.0         |
| T111N-75 | 110.0   | 75.0    | 3650              | 2750           | 34.5         |

### Anchor couplers

| Size | Length(mm) | O.D(mm) | Weight(kg) |
|------|------------|---------|------------|
| T76  | 220.0      | 95.0    | 6.4        |
| T111 | 250.0      | 140.0   | 11.5       |

### Anchor nuts



| Size | Length(mm) | Key Size(mm) | Weight(kg) |
|------|------------|--------------|------------|
| T76  | 80.0       | 100.0        | 3.6        |
| T111 | 120.0      | 150.0        | 9.0        |

### Anchor plates

| Size | Dimensions(mm) | Thickness(mm) | Hole Diameter(mm) | Weight(kg) |
|------|----------------|---------------|-------------------|------------|
| T76  | 250x250        | 60.0          | 80.0              | 27.0       |
| T111 | 300x300        | 80.0          | 130.0             | 47.8       |
| T111 | 350x350        | 90.0          | 130.0             | 76.8       |



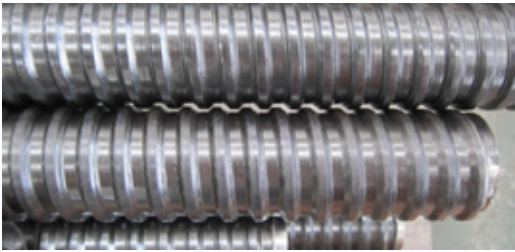
## Anchor Bits Selection

| Picture   | Code | Description  |
|---|------|--|
|    | EX   | Hardened cross bit for loose to medium dense ground conditions     |
|    | ES   | Hardened button bit for unconsolidated rock with boulders          |
|    | EC   | Hardened arch bit for unconsolidated soil with small boulders      |
|   | EY   | Hardened 3 cutters bit for loose to medium dense ground conditions |
|  | EXX  | TC cross bit for soft to medium rock formations                    |
|  | ESS  | Button bit with TC inserts for medium rock formations              |
|  | ECC  | T.C arch bit for soft to medium rock formations                    |
|  | EYY  | TC 3 cutters bit for soft to medium rock formations                |

### General guide for anchor bits diameters selection (for reference only)

| Thread | Bits Diameter (mm)                     | Thread | Bits Diameter (mm)               |
|--------|--|--------|----------------------------------|
| R25    | Φ42, Φ51, Φ76                          | T30    | Φ42, Φ46, Φ51, Φ76, Φ90          |
| R32    | Φ45, Φ51, Φ76, Φ90                     | T40    | Φ76, Φ90, Φ100, Φ115             |
| R38    | Φ64, Φ76, Φ90, Φ100, Φ110, Φ115, Φ130  | T52    | Φ76, Φ90, Φ110, Φ115, Φ130, Φ150 |
| R51    | Φ76, Φ90, Φ100, Φ110, Φ115, Φ130, Φ150 | T73    | Φ115, Φ130, Φ175                 |
| T76    | Φ100, Φ115, Φ130, Φ175, Φ200           | T103   | Φ175, Φ220, Φ280                 |
| T111   | Φ170, Φ220                             | T127   | Φ200, Φ220                       |

## T-Thread Anchor Rods



| Rod Size<br>OD/ID(mm) | Ultimate load<br>KN | Yield point<br>KN | Nominal OD<br>mm | Weight<br>kg | Thread<br>L/R |
|-----------------------|---------------------|-------------------|------------------|--------------|---------------|
| 30/16                 | 220                 | 180               | 30               | 2.7          | L             |
| 30/14                 | 260                 | 220               | 30               | 2.9          | L             |
| 30/11                 | 320                 | 260               | 30               | 3.3          | L             |
| 40/20                 | 539                 | 430               | 40               | 5.6          | L             |
| 40/16                 | 660                 | 525               | 40               | 6.6          | L             |
| 52/26                 | 929                 | 730               | 52               | 10.1         | L/R           |
| 73/56                 | 1194                | 785               | 73               | 11.2         | R             |
| 73/53                 | 1160                | 970               | 73               | 12.5         | R             |
| 73/45                 | 1630                | 1180              | 73               | 18.2         | R             |
| 73/35                 | 1980                | 1355              | 73               | 21.2         | R             |
| 103/78                | 2282                | 1800              | 103              | 25.5         | R             |
| 103/51                | 3460                | 2750              | 103              | 43.5         | R             |
| 127/111               | 2400                | 1810              | 127              | 23.5         | R             |
| 130/60                | 7940                | 5250              | 130              | 75.0         | R             |

Tensile testing



Chemical composition testing



Hardness testing





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