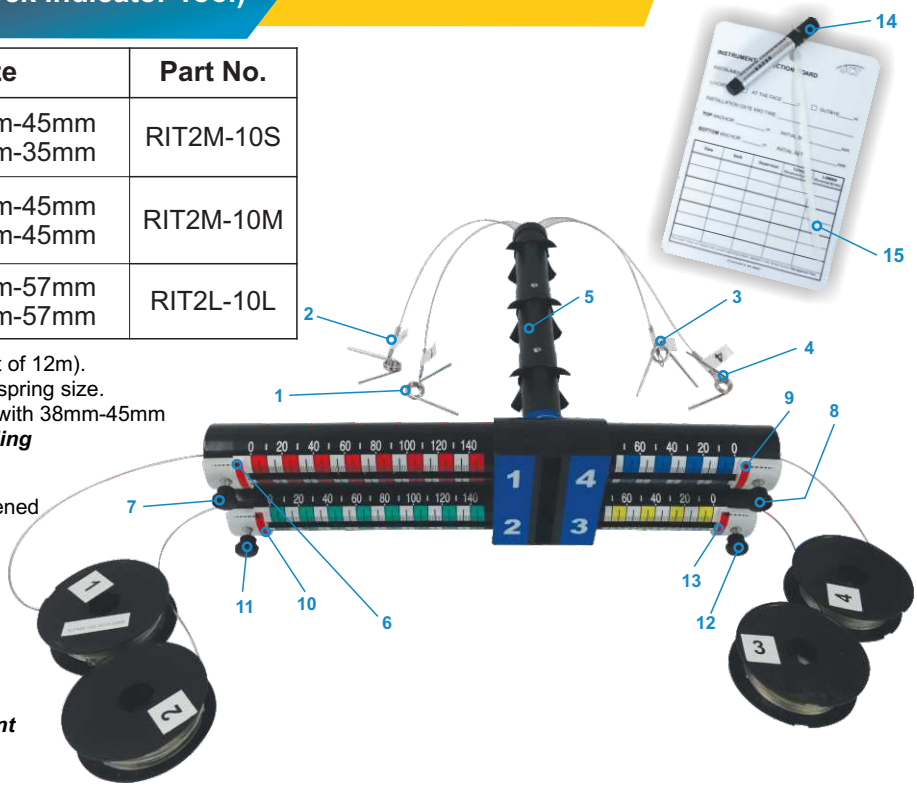
Strata Control Technology

Rock-IT — Four Anchor (Rock Indicator Tool) — Installation Procedure

Suggested Hole Diameter Drill Size			Part No.
Small Spring Size	Medium Collar Small Spring	38mm-45mm 27mm-35mm	RIT2M-10S
Medium Spring Size	Medium Collar Medium Spring	38mm-45mm 38mm-45mm	RIT2M-10M
Large Spring Size	Large Collar Large Spring	50mm-57mm 50mm-57mm	RIT2L-10L



1. Drill hole in roof according to table below (maximum dept of 12m). Refer to the bag the Rock-IT was supplied in for collar and spring size. If using small spring ream out the collar to a depth of 0.4m with 38mm-45mm reamer. ***Note: The shorter reamed section makes installing the spring anchors easier.***

2.Ensure that locking screws (7, 8, 11 and 12) are not tightened and the four suspension wires are free to travel through the Rock-IT indicator arms.

3.Using the slotted head piece on the installation rod, insert No.1 spring anchor (1) into the hole and push to the upper anchor position at the top of the hole (maximum Depth 12m). Check for firm anchorage by pulling lightly on the suspension wire. ***Note: The No.1 anchor is attached to the No.1 movement indicator (6) and measures the movement between the collar and the No.1 anchor.***

4. Using the slotted head piece on the installation rod, insert No.2 spring anchor (2) into the hole and push the No.2 monitoring position (maximum Depth 10m). Check for firm anchorage by pulling lightly on the suspension wire. ***Note: The No.2 anchor is attached to the No.2 movement indicator (10) and measures the movement between the collar and the No.2 anchor.***

5. Using the slotted head piece on the installation rod, insert No.3 spring anchor (3) into the hole and pushthe No.3 monitoring position (maximum Depth 6m). Check for firm anchorage by pulling lightly on the suspension wire. ***Note: The No.3 anchor is attached to the No.3 movement indicator (13) and measures the movementbetween the collar and the No.3 anchor.***

6.Using the slotted head piece on the installation rod, insert No.4 spring anchor (4) into the hole and pushthe No.4 monitoring position (maximum Depth 3m). Check for firm anchorage by pulling lightly on the suspension wire. **Note: The No.4 anchor is attached to the No.4 movement indicator (9) and measures the movement between the collar and the No.4 anchor.**

7.Insert the plastic collar tube assembly (5) into collar of hole, against the roof or mesh ensuring that the movement indicators (6, 9, 10 and 13) are free to move. Ensure the plastic collar tube fits securely in the hole. ***Note: You will need to pull the stainless steel wire through the Rock-IT as you push it into the hole to avoid fouling on the collar.***

8.Position the No.1 movement indicator (6) such that the reference edge of the red band (marked with arrows is aligned with the “0” mark and then secure in position by tightening locking screw (7). Check that, lockingscrew (7) is firmly secured and the No.1 indicator (6) moves freely and is not obstructed.

9.Position the No.2 movement indicator (10) such that the reference edge of the red band (marked with arrows) is aligned with the “0” mark and then secure in position by tightening locking screw (11). Check that locking screw (11) is firmly secured and the No.2 indicator (10) moves freely and is not obstructed.

10.Position the No.3 movement indicator (13) such that the reference edge of the red band (marked with arrows) is aligned with the “0” mark and then secure in position by tightening locking screw (12). Check that locking screw (12) is firmly secured and the No.3 indicator (13) moves freely and is not obstructed.

11.Position the No.4 movement indicator (9) such that the reference edge of the red band (marked with arrows) is aligned with the “0” mark and then secure in position by tightening locking screw (8). Check that locking screw (8) is firmly secured and the No.4 indicator (9) moves freely and is not obstructed.

12.Cut off any spare wire protruding from each end of the Rock-IT arms. *Note: Leave a sufficient free length of wire as re-setting of the movement indicators may be required.*

13.Using the permanent marker pen (14), fill in the instrument identifier tag (15) with the Rock-IT number, anchor positions, date and initial readings. Attach the identifier tag adjacent to the instrument on a roof strap, mesh or similar.

14. Record details of Rock-IT number, anchor positions, date, time and initial readings in record book.

If movement on either indicator scales exceeds defined limits, then report to mining official and take the recommended remedial action.

Note: Proper installation is vital to achieve an effective monitoring device to characterise roadway deformation. This is critical to mine safety: any issues with installation must be reported to mine officials.