ROCKANCHOR
INSTALLATION INSTRUCTIONS

ROCKANCHOR modules are shipped assembled, each consisting of a forged anchor bolt, expansion shell, welded pipe and assembly, washer and nut; along with the required field assembly hardware (2 studs c/w nuts each and 4 lag bolts) included in a separate plastic bag. Each pole installation requires 3, 4 or 5 modules, depending on the pole butt diameter.

1. REMOVE OVERBURDEN : The pole must rest directly on the rock, so all loose overburden (soil, gravel, etc.) must be removed.

2. EVALUATE ROCK : If the rock is fractured or unsound, an alternative method to the **ROCKANCHOR** should be used. For example, if the rock can easily be broken, shovelled or augured, this would suggest insufficient rock soundness.

3. CHECK SLOPE : The maximum allowable slope in the rock under the pole for a **ROCKANCHOR** installation is 3 inches, over the diameter of the pole butt. For example: there must not be a gap of more than 3 inches between the pole butt and the rock, and the pole must rest on the rock at some point.

4. DECIDE ON NUMBER OF MODULES :
Consult the SELECTION CHART to decide on the required number of modules for the installation, which varies with the pole butt diameter. Where the ranges overlap, the required ground line moments will determine the number of modules to be used.

5. ASSEMBLE ROCK DRILLING TEMPLATE : Choose the appropriate template core for the configuration chosen (i.e. 3, 4 or 5 modules). Insert the sleeves into the template core.

6. ADJUST TEMPLATE : Fit the assembled template to the pole butt, adjusting it for the pole size. Place the template right side up on the rock so that the holes to be drilled point outward from the pole center. The proper slope is given by the drilling sleeve. On slope rock, use the leveling bolts to ensure that the template is level before drilling.

7. DRILL HOLES : Begin at the highest point of the rock and drill a 2 inch diameter hole through the template to a depth of 24 inches. Continue drilling the remaining holes through the template to the same depth, when mesured from a horizontal line. All rock dust should be cleaned out.

8. INSERT THE ANCHORS : With all holes drilled, remove the template and drop the anchors into the holes. Loosely connect the bands with the studs.

9. ERECT POLE & TIGHTEN BANDS : Lift and hold the pole in place vertically. Tighten all the studs to grip the pole within the bands. Ensure that all nuts are firmly tightened.

10. TIGHTEN ANCHOR BOLTS : Tighten the nuts of the anchor bolts firmly. In sound rock a positive anchor will develop from the expansion shell. In poor rock you will run out of thread before developing an adequate bond and an alternate location or method must be used.

11. INSTALL LAG BOLTS: Install all lag bolts with a wrench. Pre-drilling holes in the pole and using an impact wrench or socket wrench are recommended. Release the pole.

12. FINAL STEPS: Grouting of the holes is optional if ice is a concern. Back fill any removed overburden if desired.

13. MAINTENANCE : Incorporate the **ROCKANCHOR** into the regular pole and line maintenance schedule and procedures. At each inspection ensure that all nuts and lags are in place and tight.

LOCWELD®

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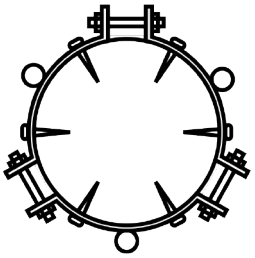
Selection Chart

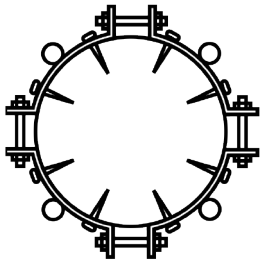
3 ANCHOR CONFIGURATION

POLE BUTT AT BASE (IN)		GROUND LINE MOMENT (LBS/FT)	
DIA.	CIRC.	ROTATION 5°	FAILURE POINT
8	25.1	26,460	48,510
9	28.3	29,460	56,228
10	34.4	33,075	63,945
11	34.5	36,382	71,663
12	37.6	39,690	79,380



4 ANCHOR CONFIGURATION

POLE BUTT AT BASE (IN)		GROUND LINE MOMENT (LBS/FT)	
DIA.	CIRC.	ROTATION 5°	FAILURE POINT
11	34.5	35,280	66,150
12	37.6	42,336	72,765
13	40.8	49,392	79,380
14	43.9	56,448	85,995
15	47.1	63,504	92,610
16	50.2	70,560	99,225



5 ANCHOR CONFIGURATION

POLE BUTT AT BASE (IN)		GROUND LINE MOMENT (LBS/FT)	
DIA.	CIRC.	ROTATION 5°	FAILURE POINT
14	43.9	77,175	99,225
15	47.1	82,687	103,268
16	50.2	88,200	107,310
17	53.3	93,712	111,353
18	56.5	99,225	115,395
19	59.6	104,737	119,438
20	62.8	110,250	123,480