

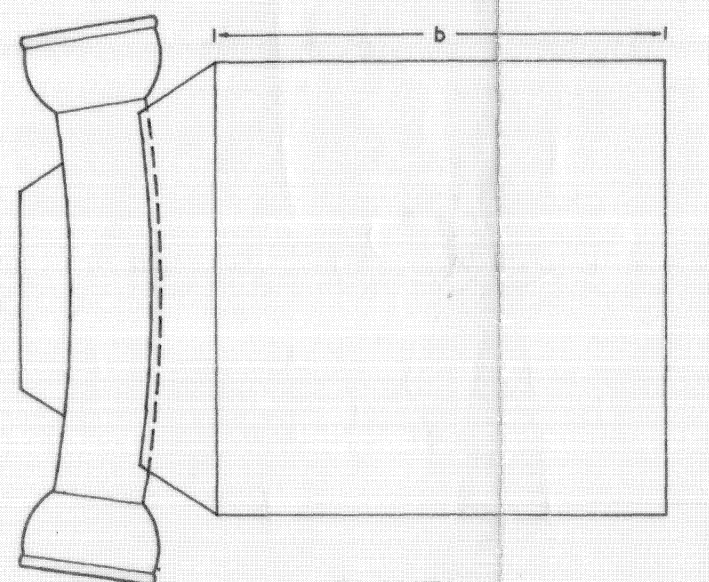
MACIZO DE ANCLAJE PARA EMPUJE EN CODOS, TES Y EXTREMIDADES DE TUBERIAS

| DIMENSIONES (m) | | | RESISTENCIA DEL TERRENO NATURAL AL EMPUJE (kg/cm ²) | | |
|-----------------|------|------|---|--------|--------|
| h | b | L | C1 = 0.5 | C1 = 1 | C1 = 2 |
| 0.15 | 0.35 | 0.15 | 125 | 238 | 463 |
| 0.15 | 0.35 | 0.25 | 208 | 396 | 771 |
| 0.15 | 0.35 | 0.35 | 290 | 555 | 1080 |
| 0.15 | 0.35 | 0.45 | 375 | 713 | 1388 |
| 0.15 | 0.35 | 0.55 | 459 | 872 | 1697 |
| 0.20 | 0.45 | 0.45 | 495 | 966 | 1866 |
| 0.20 | 0.45 | 0.50 | 574 | 1074 | 2074 |
| 0.20 | 0.45 | 0.55 | 631 | 1181 | 2281 |
| 0.20 | 0.45 | 0.60 | 687 | 1287 | 2487 |
| 0.20 | 0.55 | 0.60 | 708 | 1308 | 2508 |
| 0.25 | 0.60 | 0.50 | 748 | 1373 | 2623 |
| 0.25 | 0.60 | 0.60 | 898 | 1648 | 3148 |
| 0.30 | 0.70 | 0.50 | 923 | 1673 | 3173 |
| 0.30 | 0.70 | 0.60 | 1107 | 2007 | 3807 |
| 0.30 | 0.70 | 0.70 | 1292 | 2342 | 4442 |
| 0.30 | 0.70 | 0.80 | 1477 | 2677 | 5077 |
| 0.30 | 0.80 | 0.80 | 1516 | 2716 | 5116 |
| 0.35 | 0.80 | 0.80 | 1769 | 3169 | 5969 |
| 0.35 | 0.80 | 0.90 | 1990 | 3565 | 6715 |
| 0.35 | 0.90 | 0.90 | 2042 | 3617 | 6777 |
| 0.40 | 0.90 | 0.85 | 2204 | 3904 | 7304 |
| 0.40 | 0.90 | 0.90 | 2334 | 4134 | 7734 |
| 0.40 | 0.90 | 0.95 | 2464 | 4364 | 8164 |
| 0.40 | 0.90 | 1.00 | 2594 | 4594 | 8594 |
| 0.40 | 0.95 | 1.00 | 2627 | 4627 | 8627 |
| 0.40 | 0.95 | 1.05 | 2758 | 4858 | 9058 |
| 0.40 | 0.95 | 1.10 | 2889 | 5089 | 9489 |
| 0.45 | 1.05 | 1.00 | 3029 | 5279 | 9779 |
| 0.45 | 1.05 | 1.05 | 3136 | 5446 | 10066 |
| 0.45 | 1.05 | 1.10 | 3277 | 5697 | 10537 |
| 0.45 | 1.05 | 1.15 | 3425 | 5955 | 11015 |
| 0.45 | 1.10 | 1.15 | 3468 | 5998 | 11058 |
| 0.50 | 1.15 | 1.10 | 3793 | 6543 | 12043 |
| 0.50 | 1.15 | 1.15 | 3964 | 6849 | 12599 |
| 0.50 | 1.15 | 1.20 | 4138 | 7138 | 13138 |
| 0.50 | 1.15 | 1.25 | 4309 | 7434 | 13684 |
| 0.50 | 1.15 | 1.30 | 4483 | 7733 | |
| 0.50 | 1.15 | 1.35 | 4655 | 8030 | |
| 0.50 | 1.15 | 1.40 | 4828 | 8328 | |
| 0.55 | 1.25 | 1.25 | 4854 | 8478 | |
| 0.55 | 1.25 | 1.30 | 5048 | 8623 | |
| 0.55 | 1.25 | 1.35 | 5243 | 8956 | |
| 0.55 | 1.25 | 1.40 | 5438 | 9288 | |
| 0.55 | 1.25 | 1.45 | 5630 | 9618 | |
| 0.55 | 1.25 | 1.50 | 5826 | 9951 | |
| 0.55 | 1.25 | 1.55 | 6019 | 10282 | |
| 0.55 | 1.25 | 1.60 | 6215 | 10615 | |
| 0.60 | 1.35 | 1.50 | 6500 | 11000 | |
| 0.60 | 1.35 | 1.60 | 6938 | 11738 | |
| 0.60 | 1.35 | 1.70 | 7372 | 12472 | |
| 0.65 | 1.50 | 1.60 | 7805 | 13205 | |
| 0.65 | 1.50 | 1.70 | 8259 | 13784 | |
| 0.65 | 1.50 | 1.80 | 8745 | | |
| 0.65 | 1.50 | 1.90 | 9230 | | |
| 0.65 | 1.50 | 2.00 | 9717 | | |
| 0.65 | 1.50 | 2.10 | 10203 | | |
| 0.65 | 1.50 | 2.20 | 10689 | | |
| 0.70 | 1.60 | 2.10 | 11230 | | |
| 0.70 | 1.60 | 2.20 | 11765 | | |
| 0.70 | 1.60 | 2.30 | 12300 | | |
| 0.70 | 1.60 | 2.40 | 12835 | | |
| 0.70 | 1.60 | 2.50 | 13370 | | |
| 0.75 | 1.70 | 2.30 | 13721 | | |
| 0.75 | 1.70 | 2.40 | 14047 | | |

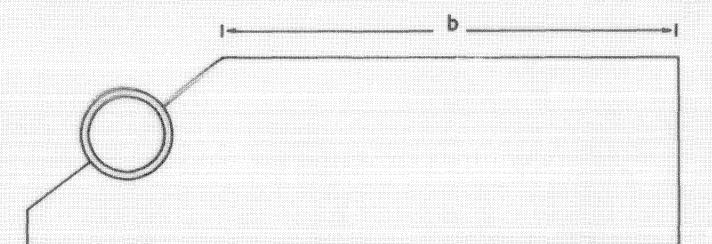
EMPUJE EN CODOS, TES Y EXTREMIDADES DE TUBERIA PARA UNA PRESION DE 1 kg/cm²

| DIAMETRO (mm) | EMPUJE (kg) | | | | | |
|---------------|--------------------|-----------|-----------|------------|------------|------------|
| | TES O EXTREMIDADES | CODOS 1/4 | CODOS 1/8 | CODOS 3/32 | CODOS 1/16 | CODOS 1/32 |
| 60 | 30 | 43 | 23 | 18 | 12 | 6 |
| 75 | 50 | 71 | 39 | 30 | 20 | 10 |
| 100 | 80 | 113 | 62 | 47 | 32 | 16 |
| 125 | 125 | 177 | 96 | 73 | 49 | 25 |
| 150 | 180 | 255 | 138 | 105 | 71 | 36 |
| 175 | 240 | 340 | 184 | 140 | 94 | 47 |
| 200 | 315 | 446 | 242 | 184 | 123 | 62 |
| 250 | 490 | 693 | 376 | 286 | 192 | 96 |
| 300 | 710 | 1004 | 544 | 415 | 277 | 140 |
| 350 | 965 | 1365 | 740 | 564 | 377 | 190 |

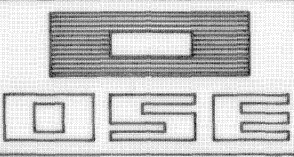
DISEÑO DE UN MACIZO DE ANCLAJE TIPO



PLANTA



CORTE TRANSVERSAL

| | | |
|---|---|-------------------------------------|
|  DEPARTAMENTO TECNICO <i>Jose Luis Queralto</i> GERENTE | ADMINISTRACION DE LAS OBRAS SANITARIAS DEL ESTADO | |
| | CONDUCCION DE LIQUIDOS A PRESION | |
| ESTUDIOS Y PROYECTOS DE MONTEVIDEO <i>Jose Luis Queralto</i> JEFE | PLANO GENERAL MACIZOS DE ANCLAJE | |
| | INGENIERO JOSE LUIS QUERALTO | ASISTENTE DE INGENIERO DIBUJANTE |
| | | FECHA : JULIO 1990 N° 30852 |