

| SEALING REQUIREMENTS FOR CLASS B SEAL AT 2" | | | | | | | | |
|---|-------|--------|-------------|--------|------|--------|------|---------|
| | ROUND | | MULTI ROUND | | OVAL | | RECT | |
| | | L.F. | | L.F. | | L.F. | | L.F. |
| JOINTS | 46 | 154 | 57 | 184 | 46 | 157 | 61 | 291 |
| TAPS | 0 | 0 | 0 | 0 | 0 | 0 | 24 | 70 |
| LONGITUDINAL SEAMS | | 0 | | 0 | | 0 | | 246 |
| TOTAL SEALING REQ'D | | 154 | | 184 | | 157 | | 607 |
| GALLONS OF DUCT SEALER | | 2 | | 2 | | 2 | | 6 |
| | | | | | | | | |
| SQ FEET OF DUCT | | 907 | | 1075 | | 934 | | 1043 |
| LEAKAGE CLASS | | 4 | | 4 | | 4 | | 8 |
| LEAKAGE FACTOR | | 6.3 | | 6.3 | | 6.3 | | 12.6 |
| EXPECTED LEAKAGE | | 57.141 | | 67.725 | | 58.842 | | 131.418 |
| TOTAL SYSTEM 5500 CFM | | 1.14% | | 1.35% | | 1.18% | | 2.63% |

We designed 4 equivalent duct systems, one round, one oval, one multiple round in lieu of oval, and one rectangle, serving the same space with 6,000 cfm of air discharged from 16 diffusers. We then calculated the amount of sealing required to achieve ASHRAE recommendations, and quickly found that rectangular duct requires 3 time the amount of duct sealer, and labor, to properly seal the duct system. After spending three times the labor, and using three times the sealer, the rectangle duct, according to the SMACNA, will still have twice the leakage.