

Heat Gain Data

| Item | R Value, | Watts | Btu/hr | Remarks (2) |
|--|----------|-------|--------|-------------------------------|
| Envelope | | | | |
| Inside Film Resistance | 0.68 | | | |
| Outside Film Resistance (1) | 0.68 | | | |
| Metal Surface | 0 | | | |
| Wall Air Space | 0.87 | | | |
| Ceiling Tile, Mineral Fiberboard 3/4" | 1.79 | | | |
| Aluminum panel, PVC Fluted Core, 1/4" | 0.44 | | | |
| Melamine MDF Core, 1/4" | 0.23 | | | |
| Equipment | | | | |
| MAC 10- IQ, low energy | | 125 | | |
| MAC 10 Original | | 220 | | |
| Motors, energy to room, per horsepower | | 900 | | Check ASHRAE Guide (2) |
| Computers and displays | | 150 | | |
| Process Equipment | | ??? | | |
| Lighting | | | | |
| Lay-in fixture, energy to room air, per lamp | | 32 | | |
| Outdoor Air, per CFM | | | 84 | Minnesota air, 95/78 to 55/54 |

Notes:
 (1) Outside film coefficient is the same as the inside, since we build cleanrooms inside a building space.
 (2) Use this spreadsheet for small cleanrooms. For larger cleanrooms, use professional engineers to calculate the heat gains.