

INDOOR SWIMMING POOL MOISTURE LOAD CALCULATION

TABLE 1
INDOOR POOL ROOM 50% RELATIVE HUMIDITY EVAPORATION FACTOR (LB/HR - SQ/FT)

AIR TEMPERATURE	P O O L W A T E R T E M P E R A T U R E													
	78	80	82	84	86	88	90	92	94	96	98	100	102	104
87	.016	.020	.023	.027	.030	.035	.039	.044	.048	.054	.059	.065	.071	.077
86	.017	.021	.024	.028	.031	.036	.040	.045	.049	.055	.060	.066	.072	.078
85	.018	.022	.025	.029	.033	.037	.041	.046	.051	.056	.061	.067	.073	.079
84	.019	.023	.026	.030	.034	.038	.042	.047	.052	.057	.062	.068	.074	.080
83	.019	.023	.026	.030	.034	.038	.042	.047	.052	.057	.062	.068	.074	.080
82	.020	.024	.027	.031	.035	.039	.043	.048	.053	.058	.063	.069	.075	.081
81	.021	.025	.028	.032	.036	.040	.044	.049	.054	.059	.064	.070	.076	.082
80	.022	.025	.029	.033	.037	.041	.045	.050	.054	.060	.065	.071	.077	.083
79	.023	.026	.030	.034	.038	.042	.046	.050	.055	.060	.066	.072	.078	.084
78	.024	.027	.031	.035	.038	.043	.047	.051	.056	.061	.067	.073	.079	.085
77	.025	.028	.032	.035	.039	.043	.048	.052	.057	.062	.068	.074	.079	.086
76	.026	.029	.033	.036	.040	.044	.049	.053	.058	.063	.069	.074	.080	.087
75	.027	.030	.034	.037	.041	.045	.050	.054	.059	.064	.070	.075	.081	.088

SWIMMING POOL ACTIVITY FACTOR SELECTION

RESIDENTIAL PRIVATE POOL1.0

Most popular water temperatures between 84° - 86° F. Room air temperature usually 2° degrees above water temperature. For exercise or lap pools water temperature between 76° - 80° F.

HOTEL -HEALTH CLUBS - CONDOMINIUMS1.3

Water temperatures normally between 80° - 84° F. Room air temperature varies (ideally, 2 degrees above water temp.)

HOT TUBS - SPAS - WHIRLPOOLS2.0

Water up to 104° F. Room Air up to 88° F.

SCHOOLS - YMCA'S1.5

PUBLIC POOLS - AQUATIC CENTERS2.0

Competitive swimming 78° - 80° F.
Pleasure swimming 82° - 84° F.
Therapeutic and children 86° - 95° F.
Room air temperature 2° above water to 88° F. Maximum

SWIMMING POOL ACTIVITY FACTOR SELECTION

Moisture Evaporation (Lb./Hr.) = Pool Surface Area x Activity Factor x Evaporation Rate Factor

P.S.A. = Pool Surface Area (sq./ft.) A.F. = Activity Factor (per chart) E.R.F. = Evaporation Rate Factor (from table one)

Note: The above factors will allow dehumidifiers to control humidity to 50% during in-active hours and up to 60% during active hours

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TABLE 2
INDOOR POOL ROOM 60% RELATIVE HUMIDITY EVAPORATION FACTOR (LB/HR - SQ/FT)

AIR TEMPERATURE	P O O L W A T E R T E M P E R A T U R E													
	78	80	82	84	86	88	90	92	94	96	98	100	102	104
87	.009	.012	.016	.019	.022	.028	.032	.036	.041	.046	.052	.058	.064	.070
86	.010	.013	.017	.020	.024	.029	.033	.037	.042	.047	.053	.059	.065	.071
85	.011	.015	.018	.022	.026	.030	.034	.039	.044	.049	.054	.060	.066	.072
84	.013	.016	.019	.023	.027	.031	.035	.040	.045	.050	.056	.061	.067	.073
83	.014	.017	.021	.024	.028	.032	.037	.041	.046	.051	.057	.062	.068	.075
82	.015	.018	.022	.025	.030	.033	.038	.042	.047	.052	.058	.064	.070	.076
81	.016	.019	.023	.027	.030	.035	.039	.044	.048	.053	.059	.065	.071	.077
80	.017	.020	.024	.028	.032	.036	.040	.045	.049	.055	.060	.066	.072	.078
79	.018	.022	.025	.029	.033	.037	.041	.046	.050	.056	.061	.067	.073	.079
78	.019	.023	.026	.030	.034	.038	.042	.047	.052	.057	.062	.068	.074	.080
77	.020	.024	.027	.031	.035	.039	.043	.048	.053	.058	.063	.069	.075	.081
76	.021	.025	.028	.032	.036	.040	.044	.049	.054	.059	.064	.070	.076	.082
75	.022	.026	.029	.033	.037	.041	.045	.050	.055	.060	.065	.071	.077	.083

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