

# Concrete Block Insulating Systems

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## TOTAL THERMAL RESISTANCE (R-values) OF UNGROUTED, FULLY GROUTED or PERLITE FILLED 8" High, 2 Core CONCRETE BLOCK INSULATED WITH KORFIL or ICON Inserts

| CORES EMPTY   | CMU DENSITY (lbs./cu. ft.) |      |      |      |      |      |      |      |      |      |      |      |         |
|---------------|----------------------------|------|------|------|------|------|------|------|------|------|------|------|---------|
|               | 80                         | 95   | 100  | 105  | 110  | 115  | 120  | 125  | 130  | 135  | 140  | 145  |         |
| CMU SIZE      | 80                         | 95   | 100  | 105  | 110  | 115  | 120  | 125  | 130  | 135  | 140  | 145  |         |
| 8 x 8 x 16    | 2.86                       | 2.61 | 2.54 | 2.46 | 2.40 | 2.33 | 2.27 | 2.21 | 2.15 | 2.10 | 2.04 | 1.99 | R-value |
| NO Insulation | 0.35                       | 0.38 | 0.39 | 0.41 | 0.42 | 0.43 | 0.44 | 0.45 | 0.47 | 0.48 | 0.49 | 0.50 | U-value |
| 10 x 8 x 16   | 3.00                       | 2.73 | 2.66 | 2.57 | 2.51 | 2.43 | 2.37 | 2.31 | 2.25 | 2.19 | 2.13 | 2.08 | R-value |
| NO Insulation | 0.33                       | 0.37 | 0.38 | 0.39 | 0.40 | 0.41 | 0.42 | 0.43 | 0.45 | 0.46 | 0.47 | 0.48 | U-value |
| 12 x 8 x 16   | 3.12                       | 2.83 | 2.75 | 2.66 | 2.60 | 2.52 | 2.45 | 2.38 | 2.33 | 2.26 | 2.21 | 2.16 | R-value |
| NO Insulation | 0.32                       | 0.35 | 0.36 | 0.38 | 0.39 | 0.40 | 0.41 | 0.42 | 0.43 | 0.44 | 0.45 | 0.46 | U-value |

| CORES INSULATED-NON Grouted    | CMU DENSITY (lbs./cu. ft.) |      |      |      |      |      |      |      |      |      |      |      |         |
|--------------------------------|----------------------------|------|------|------|------|------|------|------|------|------|------|------|---------|
|                                | 80                         | 95   | 100  | 105  | 110  | 115  | 120  | 125  | 130  | 135  | 140  | 145  |         |
| CMU SIZE                       | 80                         | 95   | 100  | 105  | 110  | 115  | 120  | 125  | 130  | 135  | 140  | 145  |         |
| 8 x 8 x 16                     | 7.74                       | 6.55 | 6.19 | 5.83 | 5.50 | 5.17 | 4.85 | 4.56 | 4.29 | 4.01 | 3.78 | 3.54 | R-value |
| One ICON or One KORFIL U-Shape | 0.13                       | 0.15 | 0.16 | 0.17 | 0.18 | 0.19 | 0.21 | 0.22 | 0.23 | 0.25 | 0.27 | 0.28 | U-value |
| 10 x 8 x 16                    | 8.52                       | 7.25 | 6.87 | 6.48 | 6.11 | 5.76 | 5.40 | 5.09 | 4.79 | 4.48 | 4.22 | 3.95 | R-value |
| One ICON or One KORFIL U-Shape | 0.12                       | 0.14 | 0.15 | 0.15 | 0.16 | 0.17 | 0.18 | 0.20 | 0.21 | 0.22 | 0.24 | 0.25 | U-value |
| 12 x 8 x 16                    | 9.38                       | 8.09 | 7.68 | 7.27 | 6.89 | 6.51 | 6.12 | 5.78 | 5.45 | 5.11 | 4.82 | 4.52 | R-value |
| One ICON or One KORFIL U-Shape | 0.11                       | 0.12 | 0.13 | 0.14 | 0.15 | 0.15 | 0.16 | 0.17 | 0.18 | 0.20 | 0.21 | 0.22 | U-value |

| CORES INSULATED & Fully Grouted | CMU DENSITY (lbs./cu. ft.) |      |      |      |      |      |      |      |      |      |      |      |         |
|---------------------------------|----------------------------|------|------|------|------|------|------|------|------|------|------|------|---------|
|                                 | 80                         | 95   | 100  | 105  | 110  | 115  | 120  | 125  | 130  | 135  | 140  | 145  |         |
| CMU SIZE                        | 80                         | 95   | 100  | 105  | 110  | 115  | 120  | 125  | 130  | 135  | 140  | 145  |         |
| 8 x 8 x 16                      | 7.54                       | 6.42 | 6.07 | 5.73 | 5.41 | 5.08 | 4.78 | 4.50 | 4.24 | 3.97 | 3.74 | 3.60 | R-value |
| One ICON or One KORFIL U-Shape  | 0.13                       | 0.16 | 0.17 | 0.18 | 0.19 | 0.20 | 0.21 | 0.22 | 0.24 | 0.25 | 0.27 | 0.28 | U-value |
| 10 x 8 x 16                     | 8.33                       | 7.13 | 6.75 | 6.38 | 6.03 | 5.67 | 5.34 | 5.03 | 4.74 | 4.43 | 4.18 | 3.92 | R-value |
| One ICON or One KORFIL U-Shape  | 0.12                       | 0.14 | 0.15 | 0.16 | 0.17 | 0.18 | 0.19 | 0.20 | 0.21 | 0.23 | 0.24 | 0.26 | U-value |
| 12 x 8 x 16                     | 9.21                       | 7.97 | 7.58 | 7.18 | 6.80 | 6.42 | 6.06 | 5.72 | 5.40 | 5.06 | 4.78 | 4.48 | R-value |
| One ICON or One KORFIL U-Shape  | 0.11                       | 0.13 | 0.13 | 0.14 | 0.15 | 0.16 | 0.17 | 0.18 | 0.19 | 0.20 | 0.21 | 0.22 | U-value |

| CORES INSULATED-Full Perlite   | CMU DENSITY (lbs./cu. ft.) |       |       |      |      |      |      |      |      |      |      |      |         |
|--------------------------------|----------------------------|-------|-------|------|------|------|------|------|------|------|------|------|---------|
|                                | 80                         | 95    | 100   | 105  | 110  | 115  | 120  | 125  | 130  | 135  | 140  | 145  |         |
| CMU SIZE                       | 80                         | 95    | 100   | 105  | 110  | 115  | 120  | 125  | 130  | 135  | 140  | 145  |         |
| 8 x 8 x 16                     | 9.04                       | 7.44  | 6.97  | 6.50 | 6.08 | 5.65 | 5.27 | 4.92 | 4.60 | 4.27 | 4.00 | 3.73 | R-value |
| One ICON or One KORFIL U-Shape | 0.11                       | 0.13  | 0.14  | 0.15 | 0.17 | 0.18 | 0.19 | 0.20 | 0.22 | 0.23 | 0.25 | 0.27 | U-value |
| 10 x 8 x 16                    | 10.86                      | 8.86  | 8.27  | 7.70 | 7.17 | 6.65 | 6.18 | 5.75 | 5.36 | 4.96 | 4.63 | 4.30 | R-value |
| One ICON or One KORFIL U-Shape | 0.09                       | 0.11  | 0.12  | 0.13 | 0.14 | 0.15 | 0.16 | 0.17 | 0.19 | 0.20 | 0.22 | 0.23 | U-value |
| 12 x 8 x 16                    | 13.18                      | 10.73 | 10.01 | 9.30 | 8.66 | 8.01 | 7.44 | 6.91 | 6.43 | 5.93 | 5.53 | 5.11 | R-value |
| One ICON or One KORFIL U-Shape | 0.08                       | 0.09  | 0.10  | 0.11 | 0.12 | 0.13 | 0.13 | 0.15 | 0.16 | 0.17 | 0.18 | 0.20 | U-value |

| CORES INSULATED-NON Grouted | CMU DENSITY (lbs./cu. ft.) |      |      |      |      |      |      |      |      |      |      |      |         |
|-----------------------------|----------------------------|------|------|------|------|------|------|------|------|------|------|------|---------|
|                             | 80                         | 95   | 100  | 105  | 110  | 115  | 120  | 125  | 130  | 135  | 140  | 145  |         |
| CMU SIZE                    | 80                         | 95   | 100  | 105  | 110  | 115  | 120  | 125  | 130  | 135  | 140  | 145  |         |
| 8 x 8 x 16                  | 9.34                       | 7.64 | 7.14 | 6.65 | 6.20 | 5.76 | 5.36 | 5.00 | 4.67 | 4.33 | 4.05 | 3.77 | R-value |
| Two ICON Inserts/Core       | 0.11                       | 0.13 | 0.14 | 0.15 | 0.16 | 0.17 | 0.19 | 0.20 | 0.21 | 0.23 | 0.25 | 0.27 | U-value |
| 10 x 8 x 16                 | 10.49                      | 8.62 | 8.06 | 7.52 | 7.02 | 6.52 | 6.07 | 5.66 | 5.28 | 4.89 | 4.58 | 4.25 | R-value |
| Two ICON Inserts/Core       | 0.10                       | 0.12 | 0.12 | 0.13 | 0.14 | 0.15 | 0.17 | 0.18 | 0.19 | 0.20 | 0.22 | 0.24 | U-value |
| 12 x 8 x 16                 | 11.94                      | 9.91 | 9.29 | 8.69 | 8.13 | 7.57 | 7.06 | 6.58 | 6.15 | 5.70 | 5.33 | 4.95 | R-value |
| Two ICON Inserts/Core       | 0.08                       | 0.10 | 0.11 | 0.12 | 0.12 | 0.13 | 0.14 | 0.15 | 0.16 | 0.18 | 0.19 | 0.20 | U-value |

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## TOTAL THERMAL RESISTANCE (R-values) OF UNGROUTED, FULLY GROUTED or PERLITE FILLED 8" High, 2 Core CONCRETE BLOCK INSULATED WITH KORFIL or ICON Inserts

| CORES INSULATED & Fully Grouted | CMU DENSITY (lbs./cu. ft.) |      |      |      |      |      |      |      |      |      |      |      |         |
|---------------------------------|----------------------------|------|------|------|------|------|------|------|------|------|------|------|---------|
| CMU SIZE                        | 80                         | 95   | 100  | 105  | 110  | 115  | 120  | 125  | 130  | 135  | 140  | 145  |         |
| 8 x 8 x 16                      | 9.23                       | 7.57 | 7.08 | 6.60 | 6.16 | 5.72 | 5.33 | 4.97 | 4.64 | 4.31 | 4.03 | 3.75 | R-value |
| Two ICON Inserts/Core           | 0.11                       | 0.13 | 0.14 | 0.15 | 0.16 | 0.18 | 0.19 | 0.20 | 0.22 | 0.23 | 0.25 | 0.27 | U-value |
| 10 x 8 x 16                     | 10.37                      | 8.54 | 8.00 | 7.46 | 6.97 | 6.48 | 6.04 | 5.63 | 5.26 | 4.87 | 4.56 | 4.23 | R-value |
| Two ICON Inserts/Core           | 0.10                       | 0.12 | 0.13 | 0.13 | 0.14 | 0.15 | 0.17 | 0.18 | 0.19 | 0.21 | 0.22 | 0.24 | U-value |
| 12 x 8 x 16                     | 11.81                      | 9.83 | 9.31 | 8.63 | 8.07 | 7.52 | 7.02 | 6.55 | 6.12 | 5.68 | 5.31 | 4.93 | R-value |
| Two ICON Inserts/Core           | 0.09                       | 0.10 | 0.11 | 0.12 | 0.12 | 0.13 | 0.14 | 0.15 | 0.16 | 0.18 | 0.19 | 0.20 | U-value |

| CORES EMPTY        | CMU DENSITY (lbs./cu. ft.) |      |      |      |      |      |      |      |      |      |      |      |         |
|--------------------|----------------------------|------|------|------|------|------|------|------|------|------|------|------|---------|
| CMU SIZE           | 80                         | 95   | 100  | 105  | 110  | 115  | 120  | 125  | 130  | 135  | 140  | 145  |         |
| 6 x 8 x 16         | 2.64                       | 2.42 | 2.35 | 2.29 | 2.22 | 2.16 | 2.10 | 2.05 | 1.99 | 1.94 | 1.89 | 1.84 | R-value |
| NO Insulation      | 0.38                       | 0.41 | 0.43 | 0.44 | 0.45 | 0.46 | 0.48 | 0.49 | 0.50 | 0.52 | 0.52 | 0.54 | U-value |
| 8 x 8 x 24 Breaker | 2.89                       | 2.63 | 2.55 | 2.47 | 2.40 | 2.33 | 2.27 | 2.20 | 2.15 | 2.08 | 2.03 | 1.97 | R-value |
| NO Insulation      | 0.35                       | 0.38 | 0.39 | 0.40 | 0.42 | 0.43 | 0.44 | 0.45 | 0.47 | 0.48 | 0.49 | 0.51 | U-value |

| CORES INSULATED-NON Grouted | CMU DENSITY (lbs./cu. ft.) |      |      |      |      |      |      |      |      |      |      |      |         |
|-----------------------------|----------------------------|------|------|------|------|------|------|------|------|------|------|------|---------|
| CMU SIZE                    | 80                         | 95   | 100  | 105  | 110  | 115  | 120  | 125  | 130  | 135  | 140  | 145  |         |
| 6 x 8 x 16                  | 6.44                       | 5.39 | 5.07 | 4.76 | 4.48 | 4.19 | 3.93 | 3.69 | 3.47 | 3.25 | 3.06 | 2.87 | R-value |
| One ICON                    | 0.16                       | 0.19 | 0.20 | 0.21 | 0.22 | 0.24 | 0.25 | 0.27 | 0.29 | 0.31 | 0.33 | 0.35 | U-value |
| 8 x 8 x 24 Breaker          | 7.48                       | 6.30 | 5.94 | 5.58 | 5.25 | 4.92 | 4.62 | 4.34 | 4.08 | 3.81 | 3.59 | 3.36 | R-value |
| One KORFIL U-Shape          | 0.13                       | 0.16 | 0.17 | 0.18 | 0.19 | 0.20 | 0.22 | 0.23 | 0.25 | 0.26 | 0.28 | 0.30 | U-value |

| CORES INSULATED & Fully Grouted | CMU DENSITY (lbs./cu. ft.) |      |      |      |      |      |      |      |      |      |      |      |         |
|---------------------------------|----------------------------|------|------|------|------|------|------|------|------|------|------|------|---------|
| CMU SIZE                        | 80                         | 95   | 100  | 105  | 110  | 115  | 120  | 125  | 130  | 135  | 140  | 145  |         |
| 6 x 8 x 16                      | 6.29                       | 5.29 | 4.98 | 4.69 | 4.41 | 4.13 | 3.88 | 3.65 | 3.44 | 3.22 | 3.04 | 2.85 | R-value |
| One ICON                        | 0.16                       | 0.19 | 0.20 | 0.21 | 0.23 | 0.24 | 0.26 | 0.27 | 0.29 | 0.31 | 0.33 | 0.35 | U-value |
| 8 x 8 x 24 Breaker              | 7.31                       | 6.18 | 5.84 | 5.49 | 5.18 | 4.85 | 4.56 | 4.29 | 4.04 | 3.78 | 3.56 | 3.33 | R-value |
| One KORFIL U-Shape              | 0.14                       | 0.16 | 0.17 | 0.18 | 0.19 | 0.21 | 0.22 | 0.23 | 0.25 | 0.27 | 0.28 | 0.30 | U-value |