CMGT 235 – Mechanical and Electrical Systems

|  |  |
| --- | --- |
| R-Value Practice Problems |  |

1. Using the R-Value Lookup Table determine the U-Factor for the 2x4 Wall Assemblies below. Use Winter Conditions.

|  |
| --- |
| **R-VALUE for 2x4 WALL at STUD AREAS** |
| **Component** | **R-Value** |
| Inside Air Film |  |
| 5/8" Gypsum Board |  |
| 2x4 Nominal (3 1/2") Stud Framing |  |
| 1x4 Nominal (3/4") Horizontal Sheathing Boards |  |
| 1/2" Plywood Sheathing |  |
| 60 Min. Building Paper |  |
| 1/2" Cedar Bevel Lapped Siding |  |
| Exterior Air Film |  |
| TOTAL R-VALUE (STUD WALL AREA) |  |
| U-FACTOR |  |

|  |
| --- |
| **R-VALUE for 2x4 WALL at CAVITY AREAS** |
| **Component** | **R-Value** |
| Inside Air Film |  |
| 5/8" Gypsum Board |  |
| Cellulose Blown Insulation |  |
| 1x4 Nominal (3/4") Horizontal Sheathing Boards |  |
| 1/2" Plywood Sheathing |  |
| 60 Min. Building Paper |  |
| 1/2" Cedar Bevel Lapped Siding |  |
| Exterior Air Film |  |
| TOTAL R-VALUE (STUD WALL AREA) |  |
| U-FACTOR |  |

|  |
| --- |
| **R-VALUE for 2x4 WALL at CAVITY AREAS** |
| **Component** | **R-Value** |
| Inside Air Film |  |
| 5/8" Gypsum Board |  |
| Fiberglass Blown Insulation |  |
| 1x4 Nominal (3/4") Horizontal Sheathing Boards |  |
| 1/2" Plywood Sheathing |  |
| 60 Min. Building Paper |  |
| 1/2" Cedar Bevel Lapped Siding |  |
| Exterior Air Film |  |
| TOTAL R-VALUE (STUD WALL AREA) |  |
| U-FACTOR |  |

 

