



2250 SOUTH TENTH STREET • SAN JOSE, CA 95112 • 800-669-7010 • 408-297-3500

## Burkeline® M-358 CSPE (CSM) 45 Mil Reinforced Hypalon®

(All Burkeline colored Hypalon is U.L. approved and may be substituted for white in any assembly)

### Class A - Mechanically Fastened, Non-Combustible Deck

- |                |   |                        |
|----------------|---|------------------------|
| 1. Deck:       | NC  | Incline: No limitation |
| Insulation:    | Celotex "Thermax Hy-Tec", Atlas Energy "AC Foam", R-Max Inc. "Multi-Max", or Manville Corp. "Ultra-Gard Gold", any thickness.   |                        |
| Barrier Board: | 5/8 inch gypsum board. (6" off set of insulation joints.)   |                        |
| 2. Deck:       | NC  | Incline: 2             |
| Insulation:    | Perlite 3/4 inch to 1 1/2 inch  |                        |
| 3. Deck:       | NC  | Incline: 2             |
| Insulation:    | American Western "R-Board 400", Apache "White line". International Permalite "Iso-Lite", Atlas Energy "AC Foam", Celotex "Hy-tec, Hy-tec II, Energy Lok, Top R 11", Homesote "Ultra M-II". Manville "Ultra Gard, Gold", NRG "Energy I", R-Max "Multi-Max". Temple-Eastex "Tempro Standard, Tempro HD", Firestone "ISO 95-GW", 1.4 inch minimum, mechanically fastened in place. |                        |
| 4. Deck:       | NC (Letter Listing 10/12/89)  | Incline: 2             |
| Base Sheet:    | (Optional): One or more layers "M-394" or "M-426" slip sheet or G-2 base sheet.   |                        |
| Insulation:    | Glass fiber, 1.4 to 4 inches thick, mechanically fastened in place.   |                        |
| 5. Deck:       | NC (Letter Listing 3/28/90)   | Incline: 2             |
| Insulation:    | Structural concrete covered with Atlas Energy "AC Foam II". 1-4" thick, hot mopped in place.  |                        |
| 6. Deck:       | NC (Letter 2/14/90)   | Incline: 2             |
| Base Sheet:    | (Optional): One or more layers "M-394", "M-426" slip sheet or G-2.  |                        |
| Insulation:    | Manville "Ultra Gard Gold", 1.4 to 4 Inches thick, mechanically fastened.   |                        |
| 7. Deck:       | NC (1990 U.L. BMD Book, Page 606)   | Incline: 1-1/2         |
| Insulation:    | "Iso-Lite", "Iso-Lite" (felt facer), "Iso-Lite" (aluminum facer), "Tapered "Iso-Lite" or "Iso-Perl", 1.0 inches minimum.  |                        |
| 8. Deck:       | NC (Atlas Energy Prods. Listing, Page 446, 1990 U.L. BMD)   | Incline: 1-1/2         |
| Insulation:    | Atlas Energy "AC Foam I", "AC Foam II", or "AC Foam Supreme", 1.0 inches minimum.   |                        |
| 9. Deck:       | NC (Test Record of 1/10/86, Page 3)   | Incline: 1             |
| Insulation:    | Wood Fiber - 1/2 to 1 inch, glass fiber - 3/4 to 1-1/16 inch, Schuller International "Fesco/Foam" - 1-5/8 to 3-1/4 inch, or perlite - 3/4 to 3 inch "Arcor FM-1" or "Arcor MB" - 1-1/2 to 1-3/4 inch thick.   |                        |
| 10. Deck:      | NC (Letter Listing 4/25/89)   | Incline: 1             |
| Insulation:    | Celotex "Star AP". 1.4 inch minimum.  |                        |
| 11. Deck:      | NC  | Incline: 1             |
| Insulation:    | Cellular concrete, gypsum concrete, vermiculite concrete, perlite concrete or concrete with all joints grouted on the surface.  |                        |
| 12. Deck:      | NC (Letter Listing 12/88)   | Incline: 1             |
| Insulation:    | One layer of Carpenter "Iso-Deck GF", 1 to 1-1/2 inch thick, followed by a minimum 1/2 inch thick wood fiber board, mechanically fastened.  |                        |
| 13. Deck:      | NC  | Incline: 1             |
| Barrier Board: | 1/2 inch plywood  |                        |
| Base Sheet:    | M-426 slip sheet  |                        |

14. Deck:	NC	Incline: 1
Base Sheet:	43# fiberglass reinforced, mechanically fastened.	
Insulation:	Manville "Ultra Gard Gold", uniform thickness or tapered, 1-1/2" to 5" thick, mechanically fastened.	
15. Deck:	NC (Letter Listing 11/1/90)	Incline: 1
Insulation:	1-1/2 inch Celotex "Hy-Tec"	
Barrier Board:	1/2 Inch minimum wood fiber	
16. Deck:	NC	Incline: 1
Insulation:	Celotex "Thermax Hy-Tec", Atlas Energy Products "AC Foam", R-Max Inc. "Multi-Max" or Manville Corp. "Ultra-Gard Gold", any thickness.	
Barrier Board:	(Optional) 1/2 inch gypsum board (6 inch offset of insulation joints).	
17. Deck:	NC (Letter Listing 10/88)	Incline: 1/2
Insulation:	Celotex "Apache Pyrox" 3 inch maximum, or "Top R-11" or "Ultra Gard Gold", any thickness.	
Barrier Board:	Wood fiber-board, 1/2 inch thick, (Up to 1 inch thick for "Apache Pyrox")	
18. Deck:	NC (Letter Listing 10/23/89)	Incline: 1/2
Insulation:	Max. 3" DOW SM Board: or EPS, any thickness.	
Cover Sheet:	Either 1/2" wood fiber-board, or Manniglas 1200, 20 mil; or Burke M-426 Glass sheet; Burke M-394, foil-faced glass sheet.	
19. Deck:	NC (Letter Listing 10/27/95)	Incline: 1/2
Insulation:	EPS, any thickness.	
Insulation:	Atlas "AC Foam II", Celotex "Thermax Hy-Tec (Energy Lok)", "Hy Therm AP", "Apache White Line" or Pyrox", 2 in thick minimum.	
20. Deck:	NC (Letter Listing 10/23/89)	Incline: 1/2
Insulation:	Celotex "Top R-11" any thickness covered with 1/2" wood fiber board.	
Slip Sheet:	Manniglas 1200, 20 mil, M-394 or M-426.	
21. Deck:	NC (Letter Listing 9/27/88)	Incline: 1/2
Insulation:	Celotex "Top R-II" any thickness covered with 1/2" wood fiber board.	
22. Deck:	NC (Letter Listing 10/11/96)	Incline: 1/2
Insulation:	EPS tapered or uniform thickness.	
Barrier Sheet:	Either 1/2" wood fiber-board minimum	
23. Deck:	NC (Letter Listing 7/26/94)	Incline: 1/2
Insulation:	EPS any thickness.	
Barrier Sheet:	1/2" Gypsum	
24. Deck:	NC (BASF Listing Page 451 of U.L. 1990)	Incline: ***See note
Insulation:	BASF EPS (Uniform or tapered) any thickness, which is covered with wood-fiber (1/2 inch minimum) perlite (3/4 inch minimum), or US Gypsum "Micore" (1/2 inch minimum) is a suitable alternate to Foamed Plastic or Plastic/Mineral and Fiberboard Insulation Systems.	
25. Deck:	NC (Assoc.Foam Mfgs. Listing Page 442 of U.L. 1990)	Incline: *** See Note
Insulation:	EPS/Perlite or EPS/Wood fiber, (Perlite or wood fiber must be minimum 1 inch thick), any combination, any thickness for the following: A. "Perform 1" (uniform thickness EPS) covered with perlite or wood fiber. B. "Perform 2" (EPS/wood fiber or EPS/perlite). C. "Contour Taper Tile" (EPS/wood fiber, EPS/perlite or EPS field covered with minimum 1 inch thick wood fiber or perlite.)	

Note: Classification is same as original roof. Incline, attachment in accord with classification of system. May be substituted for any other foam insulation.

**Class A - Mechanically Fastened, Combustible Deck**

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|----------------|--|------------------------|
| 1. Deck:       | C - 2-1/4 inch T&G   | Incline: No Limitation |
| Barrier Board: | 5/8 inch U.L. Classified gypsum board, mechanically fastened.  |                        |
| 2. Deck:       | C - 2-1/4 inch T&G   | Incline: No Limitation |
| Barrier Board: | 5/8 inch U.L. Classified gypsum board, mechanically fastened.  |                        |
| Insulation:    | One or more layers of U.L. Classified fiberglass 2 to 3 inches thick.  |                        |
| 3. Deck:       | C-15/32  | Incline: No Limitation |
| Insulation:    | (optional) Celotex Corp. "Thermax Hy Tec", Atlas Energy Products "AC Foam I" or "AC Foam II", Rmax Inc. "Multi-Max", Schuller International "Ultra Gard Gold", any thickness |                        |
| Barrier Board: | One layer of 5/8" gypsum mechanically fastened.  |                        |
| Insulation:    | One or more layers of fiber glass 3/4 to 2" thick (U.L. Classified).   |                        |
| 4. Deck:       | C-15/32  | Incline: No Limitation |
| Vapor Barrier: | (Optional) One layer of polyethylene.  |                        |
| Insulation:    | One layer of listed polyisocyanurate insulation 3" thick, mechanically fastened. (U.L. Classified).  |                        |
| Barrier Board: | One layer of 1/2" gypsum mechanically fastened.  |                        |
| Insulation:    | One or more layers of fiber glass 3/4 to 2" thick (U.L. Classified).   |                        |
| 5. Deck:       | C - 15/32 (Letter Listing 9/9/95)  | Incline: No Limitation |
| Insulation:    | Any U.L. Classified, any thickness   |                        |
| Barrier Board: | 1/4" Georgia Pacific "Dens Deck"   |                        |
| 6. Deck:       | C-15/32  | Incline: 3             |
| Slip Sheet:    | One layer Burke M-394.   |                        |
| Insulation:    | Perlite - 3/4 to 4 inches (6 inch offset insulation from plywood joints).  |                        |
| 7. Deck:       | C-15/32 (Letter Listing 10/87)   | Incline: 1-1/2         |
| Insulation:    | Celotex "Thermax Hy-Tec", Atlas Energy "AC Foam", R-Max Inc. "Multi-Max", or Manville Corp. "Ultra Gard Gold", any thickness. (6 inch offset of plywood joints).             |                        |
| Barrier Board: | 1/2 inch gypsum board. (Gypsum may alternately go directly on deck below insulation also).   |                        |
| 8. Deck:       | C-15/32 (Letter Listing 7/88)  | Incline: 1-1/2         |
| Insulation:    | EPS/Perlite or EPS/ wood fiber 3/4 to 4 inches. (6 inch offset in joints)  |                        |
| Barrier Board: | 5/8 inch gypsum board.   |                        |
| 9. Deck:       | C-15/32  | Incline: 1             |
| SlipSheet:     | Manniglas 1200, 15 mil.  |                        |
| Insulation:    | Perlite, 3/4 to 3 Inches (6 inch offset of plywood joints).  |                        |
| 10. Deck:      | C-15/32  | Incline: 1             |
| Barrier Board: | 1/2 inch gypsum board, mechanically fastened.  |                        |
| Insulation:    | (Optional) Glass fiber: 1-1/16 to 2-3/4 inch, or perlite 3/4 to 3 inches (6 inch offset of the insulation joints.)   |                        |
| 11. Deck:      | C-3/4" (Letter Listing 9/89)   | Incline: 1             |
| Insulation:    | Polyisocyanurate, any thickness  |                        |
| Barrier Board: | 5/8 inch gypsum board (joints staggered a minimum of 6" from the plywood deck joints.)   |                        |
| 12. Deck:      | C-15/32 (Letter Listing 11/1/90)   | Incline: 1             |
| Barrier Board: | 1/2 inch gypsum  |                        |

13. Deck: C-15/32 Incline: 1/2  
 Base Sheets: One or more layers each of M-394, M-426, and G-2 base sheets.  
 Insulation: American Western "R-Board 400". Apache "White line" International Permalite "Iso-Lite", Atlas Energy "AC Foam", Celotex "Hy-Tec, Hy-Tec II", Energy Lok "Top R-11", Homesote "Ultra M-II", Manville "Ultra Gard Gold", NRG "Energy I", R-Max "Multi-Max", Temple-Eastex "Tempro HD", Firestone ISO 95-GW, 1.4 inches thick minimum, mechanically fastened in place.
14. Deck: C-15/32 (Letter Listing 2/28/93) Incline: 1/4  
 Insulation: EPS any thickness.  
 Barrier Board: 7/8" gypsum
15. Deck: C-15/32 (Letter Listing 10/3/94) Incline: 1/4  
 Slip Sheet: 15 mil Manninglas (M-426 slip sheet)  
 Insulation: Celotex "Hy Therm AP" or NRG "E' NRG' Y' 2G", 2 inches thick minimum EPS any thickness.  
 Barrier Board: 7/8" gypsum
16. Deck: C-3/4 (Letter Listing 8/89) Incline: 1/8  
 Insulation: 1.5 to 6.25 EPS loose laid or mechanically fastened.  
 Barrier Board: 5/8 gypsum
17. Deck: C-15/32 (Letter Listing 12/2/87) Incline: 1/8  
 Barrier Board: One layer of 5/8" minimum (U.L. Classified) board.  
 Insulation: One layer of American Western "R board 400" (3 inch maximum)
18. Deck: C-15/32 (Letter Listing 11/5/97) Incline: 1/8  
 Insulation: Atlas "AC Foam II" 3 inches thick minimum (Joints offset a minimum of 6 inches.)

### **Class B - Mechanically Fastened, Non-Combustible Deck**

1. Deck: NC Incline: 1-1/2  
 Insulation: Glass fiber 3/4 to 1-11/16 inches, Manville "Fesco Foam" 1-5/8 to 3-1/4 inches, perlite 3/4 to 3 inches, or wood fiber 1/2 to 1 inch minimum.
2. Deck: NC Incline: 1-1/2  
 Insulation: Celotex "Thermax Hy-Tec", Atlas Energy "AC Foam", R-Max "Multi-Max", Manville Corp. "Ultra-Gard Gold", any thickness.
3. Deck: NC Incline: 1  
 Insulation: Firestone "ISO 95-GW"

### **Class B - Mechanically Fastened, Combustible Deck**

1. Deck: C-15/32 inch Incline: 2  
 Base Sheet: One or more layers of M-394 slip sheet, M-426 slip sheet and G-2 base sheet.  
 Insulation: American Western "R-Board 400". Apache "White line" International Permalite "Iso-Lite", Atlas Energy "AC Foam", Celotex "Hy-Tec, Hy-Tec II", Energy Lok "Top R-11", Homesote "Ultra M-II", Manville "Ultra Gard Gold", NRG "Energy I", R-Max "Multi-Max", Temple-Eastex "Tempro Standard", Firestone "ISO 95-GW", 1.4 inches thick minimum, mechanically fastened in place.
2. Deck: C-15/32 inch (Letter Listing 5/27/88) Incline: 1/4  
 Slip Sheet: One layer M-394 underlayment  
 Insulation: Perlite - 3/4 maximum covered with nominal 1" thick polyisocyanurate insulation.
3. Deck: C-15/32 inch (Letter Listing 8/18/88) Incline: 1-1/2  
 Slip Sheet: One layer M-394 underlayment.  
 Insulation: Perlite - 3/4" maximum, covered with R-MAX "Multi-Max".

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|--------------|---|--------------|
| 4. Deck:     | C-15/32 inch (Letter Listing 10/11/88)  | Incline: 1/2 |
| Base Sheet:  | One or more layers of M-394 slip sheet, or G-2 base sheet.  |              |
| Insulation:  | American Western "R-Board 400". Apache "White line", International Permalite "Top R-11", Homesote "Ultra M-II", Manville "Ultra Gard Gold", NRG "Energy I", R-Max "Multi-Max", Temple-Eastex "Tempro Standard, Tempro HD", Firestone "ISO 95-GW", 1.4 inches thick minimum, mechanically fastened in place. |              |
| 5. Deck:     | C-15/32 inch  | Incline: 1/4 |
| Slip Sheet:  | Manniglass 1200, 15 mils.   |              |
| Insulation:  | Perlite - 3/4 inch thick minimum (6 inch offset of insulation joints from plywood joints).  |              |
| 6. Deck:     | C-3/4 inch (Letter Listing 7/15/88)   | Incline: 1/4 |
| Slip Sheet:  | One layer of 10 mil (minimum) "Manniglass 1200".  |              |
| Insulation:  | Glass fiber 15/16 to 4" thick, mechanically fastened.   |              |
| 7. Deck:     | C-1/2 inch (Warnock Hersey Listing)   | Incline: 1/4 |
| Base Sheets: | Two or more layers of U.L. Classified G-2 base sheet.   |              |

#### ADDITIONAL SPECIFICATIONS:

1. Unless otherwise indicated, the specified membrane is fastened to the deck with screws and metal or plastic discs. The laps are hot air welded or sealed with "M-734 White Welding Solution" at a rate of 1 gal./sq. 1/4" bead of the same welding solution must be flood coated to seal any exposed cut edges.
2. The order in which materials are listed within each listing above reflects the order in which they are to be installed on the roof. For example, the first material after deck will be the first material placed on the deck, and the second, next.
3. The use of a vapor barrier in the application of any of the above listings does not alter the listing in any way. ( Letter 5/18/97)
4. The use of pedestals in ballasted systems in no way alters the fire rating of any ballasted system.
5. M-426 slip sheet may be substituted in any listing citing 15 mil Manning Glass 1200 as a slip sheet. ( Letter listing 9/17/97)

M-394 and M-426 are Burke proprietary products.

All G-2 base sheet included in these listings must be U.L. Classified.