

NFPA 285 ASSEMBLY GUIDE

Thermasheath®

INSULATION FOR THE BUILDING ENVELOPE

Rmax Thermasheath® passes the stringent NFPA 285 test within numerous assembly configurations and is approved for use in exterior walls of buildings of any height. This document briefly describes approved options, however, for more specific details, requirements and limitations, refer to third party reports. NFPA 285 is an assembly test and substitution of components is not allowed.

Table 1: Approved Components for NFPA 285 Assemblies

WALL COMPONENT	MATERIALS		
Base Wall	<ul style="list-style-type: none"> Steel studs (3 5/8" 20GA min, 24" o.c. max) with Type X interior gypsum wallboard (1/2" min) Concrete or concrete masonry wall FRTW¹ studs (nominal 2x4 min, 24" o.c. max) with 5/8" Type X interior gypsum wallboard 		
Floor Line Fire-Stopping	<ul style="list-style-type: none"> Mineral fiber insulation (4 pcf) FRTW¹ fire blocking 		
Cavity Insulation	<ul style="list-style-type: none"> None Mineral fiber or fiberglass (faced or unfaced) Any non-combustible insulation Various SPF (requires 5/8" exterior gypsum) 		
Exterior Sheathing	<ul style="list-style-type: none"> None (only with concrete or concrete masonry walls) Exterior gypsum sheathing (1/2" min) FRTW¹ structural panels (1/2" min) Soprema® SOPRASEAL® Xpress G² USG/Tremco Securock® ExoAir® 430 Panel² 5/8" DensElement® with DensDefy or Prosoco FastFlash flashing at joints/fasteners 		
WRB Over Exterior Sheathing	<ul style="list-style-type: none"> None Any WRB in Table 2 (Group 1, 2 or 3) 		
Exterior Insulation	<ul style="list-style-type: none"> Thermasheath® (4.5" max) 		
Exterior Sheathing	<ul style="list-style-type: none"> None Magnesium Oxide Board (MgO) 		
WRB Over Exterior Insulation	<ul style="list-style-type: none"> None Any WRB in Table 2, Group 2 (claddings 1-8) Any WRB in Table 2, Group 3 		
Exterior Cladding Options 1-8	<table border="0"> <tr> <td> <ol style="list-style-type: none"> Brick, standard 4" clay brick with max 2" air gap Stucco, cement plaster (3/4" min) and lath with optional secondary WRB (not asphaltic or self-adhered butyl) Limestone (2" min) Natural stone veneer (2" min) </td> <td> <ol style="list-style-type: none"> Cast artificial stone veneer (1 1/2" min), per ICC-ES AC 51 Precast Concrete Panels (1 1/2" min) CMU (1 1/2" min) Terracotta cladding (1 1/4" min) </td> </tr> </table>	<ol style="list-style-type: none"> Brick, standard 4" clay brick with max 2" air gap Stucco, cement plaster (3/4" min) and lath with optional secondary WRB (not asphaltic or self-adhered butyl) Limestone (2" min) Natural stone veneer (2" min) 	<ol style="list-style-type: none"> Cast artificial stone veneer (1 1/2" min), per ICC-ES AC 51 Precast Concrete Panels (1 1/2" min) CMU (1 1/2" min) Terracotta cladding (1 1/4" min)
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Exterior Cladding Options 9-21	<table border="0"> <tr> <td> <ol style="list-style-type: none"> Any MCM (aluminum, steel, copper, zinc) with (max 2 1/2" air gap)³ Metal panel, uninsulated (aluminum, steel, copper, zinc) Fiber-cement siding, uninsulated Porcelain or ceramic tile Autoclaved-aerated-concrete (AAC) panels³ Stone/aluminum honeycomb composite building panels³ Natural or artificial stone veneer, adhered (1 1/4" min) One coat stucco (3/8" min) </td> <td> <ol style="list-style-type: none"> Thin (clay) brick, natural stone or artificial stone (min 3/4" thick) fully adhered with cementitious mortar (standard or polymer-modified) to min 1/2" thick cement backer board or gypsum sheathing with optional secondary WRB (not full coverage asphalt or self-adhered butyl) Stone Panels, Inc. StoneLite® panel system Glen-Gery Thin Tech® Elite Series or Tru-Brix® Tabs II Panel System with 1/2" bricks using Tabs Wall Adhesive FunderMax M.Look with max 1 1/2" air gap </td> </tr> </table>	<ol style="list-style-type: none"> Any MCM (aluminum, steel, copper, zinc) with (max 2 1/2" air gap)³ Metal panel, uninsulated (aluminum, steel, copper, zinc) Fiber-cement siding, uninsulated Porcelain or ceramic tile Autoclaved-aerated-concrete (AAC) panels³ Stone/aluminum honeycomb composite building panels³ Natural or artificial stone veneer, adhered (1 1/4" min) One coat stucco (3/8" min) 	<ol style="list-style-type: none"> Thin (clay) brick, natural stone or artificial stone (min 3/4" thick) fully adhered with cementitious mortar (standard or polymer-modified) to min 1/2" thick cement backer board or gypsum sheathing with optional secondary WRB (not full coverage asphalt or self-adhered butyl) Stone Panels, Inc. StoneLite® panel system Glen-Gery Thin Tech® Elite Series or Tru-Brix® Tabs II Panel System with 1/2" bricks using Tabs Wall Adhesive FunderMax M.Look with max 1 1/2" air gap
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Rough Openings	<p>Rough opening perimeters shall incorporate one of the following, spanning at a minimum from the interior edge of the cladding to the interior edge of the exterior insulation at the rough opening.</p> <table border="0"> <tr> <td> <ol style="list-style-type: none"> 20 GA. (min) sheet steel (i.e. window frame, flashing, lintel, c-channel) 1" (min) 4pcf (min) mineral wool 1.5" (min) FRT wood buck </td> <td> <ol style="list-style-type: none"> 2 layers 3/4" (min) FRT plywood 2 layers 5/8" (min) type X GWB 1/2" (min) fiber cement board or 2 layers 1/4" (min) </td> </tr> </table>	<ol style="list-style-type: none"> 20 GA. (min) sheet steel (i.e. window frame, flashing, lintel, c-channel) 1" (min) 4pcf (min) mineral wool 1.5" (min) FRT wood buck 	<ol style="list-style-type: none"> 2 layers 3/4" (min) FRT plywood 2 layers 5/8" (min) type X GWB 1/2" (min) fiber cement board or 2 layers 1/4" (min)
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Flashing	<ul style="list-style-type: none"> Any asphalt, acrylic or butyl based (12" max) Any liquid applied (12" max) 		

¹Fire Retardant Treated Wood (FRTW), where allowed, must comply with IBC Section 2303.2.

²No additional WRB over sheathing.

³Must have passed NFPA 285 or other as allowed in DrJ TER

NOTE: For additional details of each component and confirmation of approved assembly, refer to Fire Analysis Summary from Priest & Associates.

Table 2: Water Resistive Barriers (WRBs) Approved for Use in Rmax NFPA 285 Assemblies

GROUP 1 WRB Over Exterior Sheathing (all claddings)
 Sheathing = gypsum or FRTW applied direct to studs, prior to Thermasheath®

SELF ADHERED	FLUID APPLIED	
Dörken Systems: DELTA®-STRATUS SA	BASF: MasterSeal® AWB 660	Kemper Systems STS: Wall Guardian® FW-100
Dörken Systems: DELTA®-VENT SA	BASF: MasterSeal® AWB 660 I	NaturaSeal: AirSeal NS-A250-HP
Henry®: Blueskin® SA	GCP: PERM-A-BARRIER® NPL 10	NaturaSeal: AirSeal NS-A250-HP
SOPREMA®: SOPRASEAL® Stick 1100T	GCP: PERM-A-BARRIER® VPL 50 Membrane	Sika: SikaGard®-530
Tremco™: ExoAir® 110AT	Henry®: Air-Bloc® 32MR	SOPREMA®: SOPRASEAL® LM 204 VP
	Kemper Systems STS: Wall Guardian® FW-100-A	Tremco™: ExoAir® 230

GROUP 2 WRB Over Exterior Sheathing (all claddings), WRB Over Exterior Insulation (claddings 1-8)
 Sheathing = gypsum or FRTW applied direct to studs, prior to Thermasheath®; Insulation = Thermasheath®

SELF ADHERED	FLUID APPLIED	
GCP: PERM-A-BARRIER® VPS	Carlisle: Fire Resist Barritech NP™	Pecora: ProPerm VP
Henry®: EnviroCap	Carlisle: Fire Resist Barritech VP	Pecora: XL-Perm ^{ULTRA} NP
Henry®: Blueskin® VP160	Dow®: DOWSIL™ DEFENDAIR 200	Pecora: XL-Perm ^{ULTRA} VP (10 mil DFT)
SIGA: Majvest® 500 SA	Dow®: DOWSIL™ DEFENDAIR 200C	PROSOCO: R-Guard® Cat 5™
SOPREMA®: SOPRASEAL® Stick VP	Dryvit®: Backstop® NT™	PROSOCO: R-Guard® VB
VaproShield®: RevealShield SA®	GCP: PERM-A-BARRIER® VPL	PROSOCO: R-Guard® Spray Wrap
VaproShield®: WrapShield SA®	GCP: PERM-A-BARRIER® VPL LT	PROSOCO: R-Guard® Spray Wrap MVP
W.R. Meadows®: AIR-SHIELD SMP	Henry®: Air-Bloc® 17MR	Sika: SikaGard®-535
	Henry®: Air-Bloc® 21FR	W.R. Meadows®: AIR-SHIELD LMP (Black)
	Henry®: Air-Bloc® 16MR	W.R. Meadows®: AIR-SHIELD LMP (Gray)
	Henry®: Air-Bloc® 31MR	W.R. Meadows®: AIR-SHIELD LSR
	Henry®: Air-Bloc® 33MR	W.R. Meadows®: AIR-SHIELD TMP
	Henry®: Air-Bloc® All-Weather STPE	
	Parex USA: WeatherSeal Spray & Roll-On	

MECHANICALLY ATTACHED

Dörken Systems: DELTA®-FASSADE S	Dörken Systems: DELTA®-MAXX PLUS	Henry®: Super Jumbo Tex® 60 Minute ¹
Dörken Systems: DELTA®-FOXX PLUS	Dörken Systems: DELTA®-VENT S PLUS	Henry®: WeatherSmart® Drainable

GROUP 3 WRB Over Exterior Sheathing (all claddings), WRB Over Exterior Insulation (all claddings)
 Sheathing = gypsum or FRTW applied direct to studs, prior to Thermasheath®; Insulation = Thermasheath®

SELF ADHERED	FLUID APPLIED	MECHANICALLY ATTACHED
Carlisle: Fire Resist 705FR-A	PROSOCO: R-Guard® Spray Wrap MVP	DuPont™: Tyvek® (various per ESR-2375)
GCP: PERM-A-BARRIER® Aluminum Wall Membrane		DuPont™: WEATHERMATE™
Henry®: FOILSKIN		DuPont™: WEATHERMATE™ Plus
Henry®: Blueskin® Metal Clad®		Kingspan: GreenGuard® MAX™ Building Wrap
SOPREMA®: SOPRASOLIN HD		

¹Use over insulation is limited to stucco only.

NOTE: For additional details of each component and confirmation of approved assembly, refer to Fire Analysis Summary from Priest & Associates.

For warranties, limitations and conditions refer to the Rmax® Sales Policy and applicable warranties. All documents are located at rmax.com. For sales, technical and customer support go to rmax.com.

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