

Material Requirements

TAMKO GLASS-BASE®, TAM-GLASS PREMIUM®, TAM-PLY IV®, or BASE-N-PLY®	1 ply
Fiberglass Sheet	1 ply
TAMKO AWAPLAN 170 (Granule Surfaced)	1 ply
Asphalt (Per 100 sq. ft.)	Approx. 46 lbs.

Slope: Positive drainage up to 3 in. per linear ft. For slopes above 3/4 in. per linear ft., fastening of the AWAPLAN 170 is required.

Deck: The deck should conform to TAMKO general requirements.

Insulation: The insulation should be installed according to the manufacturer's specification in the thickness required. The insulation should conform to TAMKO requirements. Polyisocyanurate and expanded polystyrene must have an overlay of a minimum 1/2 in. fiberboard, perlite, or fiberglass roof insulation.

Asphalt: The asphalt should be certified by the manufacturer to meet ASTM D-312, Type III for slopes up to 1/4 in. and Type IV for slopes up to 3 in.

Base Ply: Starting at the low point of the roof, install 1 layer of TAMKO GLASS-BASE, TAM-GLASS PREMIUM, TAM-PLY IV, or BASE-N-PLY beginning with a 1/2 m width, then a full 1 m width, side lapped 2 in. and end lapped 4 in. Apply at a right angle to the slope of the roof. Solid mop to the insulation with approximately 23 lbs. (±15%) of specification asphalt per 100 sq. ft.

AWAPLAN 170: Starting at the low point of the roof, install 1 layer of TAMKO AWAPLAN 170 granule surfaced sheet, side lapped 4 in. and end lapped 6 in. The AWAPLAN 170 should be solidly adhered to the base ply (pressed into the hot asphalt) with approximately 23 lbs. (±15%) of specification asphalt per 100 sq. ft. The asphalt should be above 400° F at the point of application and mopped no more than 4 ft. in front of the roll.

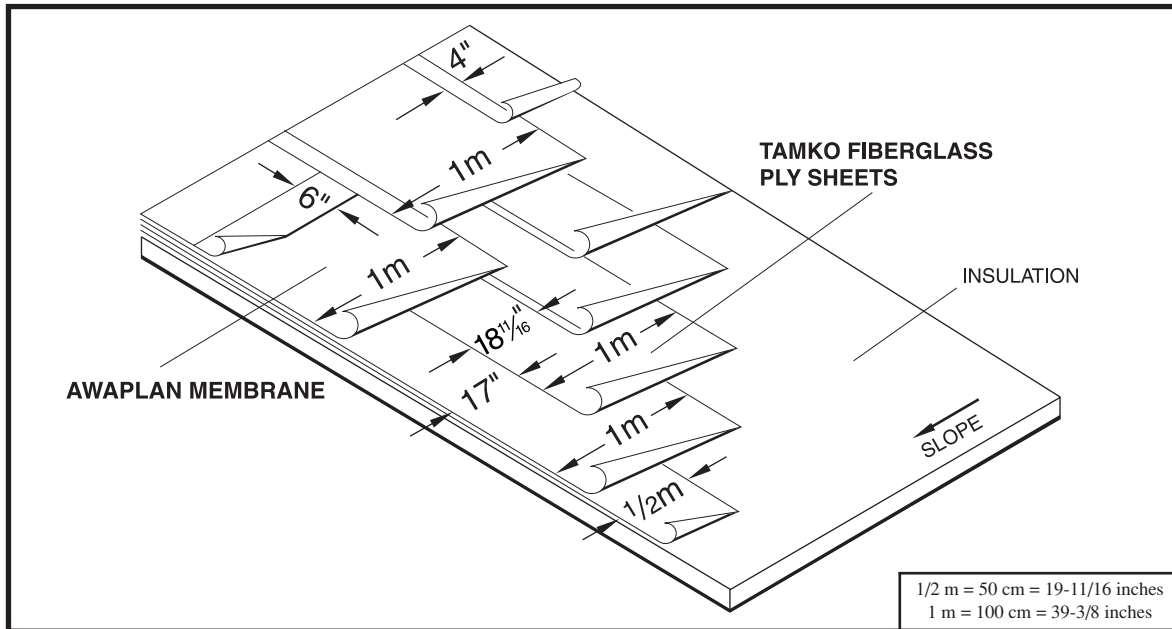
Flashing: The flashing material **must** be a TAMKO polyester reinforced modified asphalt flashing material.

U.L. Requirements: Contact TAMKO for information on U.L. systems requirements.

Caution: A product(s) in this specification contains crystalline silica and formaldehyde. Crystalline silica and formaldehyde have been classified as "known" human carcinogens by the International Agency for Research on Cancer (IARC) and the National Toxicology Program. A product(s) in this specification also contains oxidized asphalt. Occupational exposures to oxidized asphalt and its emis-

sions during roofing have been classified by IARC as a “probable human carcinogen”. Oxidized asphalt also contains Polycyclic Aromatic Hydrocarbons some of which have been classified by IARC as known or probable human carcinogens. The physical nature of the product(s) in this specification may help limit any inhalation or dermal hazard during application and/or removal. However, physical forces such as sawing, grinding or drilling during demolition work and heating or burning may increase the inhalation or dermal exposure hazard of the product(s) in this specification. Take precautions to prevent breathing and contact with skin.

Application of product(s) in this specification using “hot mopped” applications may expose workers and others in the work area to oxidized asphalt and its emissions. The International Agency for Research on Cancer has classified occupational exposures to oxidized asphalt and its emissions during roofing as a “probable human carcinogen.” During installation and removal of the product(s) in this specification, including “hot mopped” application, workers must take precautions to assure adequate ventilation and use effective personal protective equipment to prevent exposures to dusts, fumes, vapors and mists. It is the responsibility of the contractor and workers to protect themselves and others in the work area from exposure to oxidized asphalt and its emissions when applying the product(s) in this specification.



Material Requirements

TAMKO TAM-GLASS PREMIUM®, or TAM-PLY IV® Fiberglass Ply Sheet	2 plies
TAMKO AWAPLAN 170 (Granule Surfaced)	1 ply
Asphalt (Per 100 sq. ft.)	Approx. 69 lbs.

Slope: Positive drainage up to 3 in. per linear ft. For slopes above 3/4 in. per linear ft., fastening of the AWAPLAN 170 is required.

Deck: The deck should conform to TAMKO general requirements.

Insulation: The insulation should be installed according to the manufacturer’s specification in the thickness required. The insulation should conform to TAMKO requirements. Polyisocyanurate and expanded polystyrene must have an overlay of a minimum 1/2 in. fiberboard, perlite, or fiberglass roof insulation.

Asphalt: The asphalt should be certified by the manufacturer to meet ASTM D-312, **Type III for slopes up to 1/4 in.** and **Type IV for slopes up to 3 in.**

Fiberglass Ply Sheet 2 Ply Installation: Over the insulation, install 2 plies of TAM-GLASS PREMIUM or TAM-PLY IV in specification asphalt. Starting from the low point of the roof, apply a 1/2 m width, then a full 1 m width. Follow with full 1 m widths, shingle fashion, lapping each ply 20-11/16 in. in such a manner so that at least 2 plies cover the insulation at any one point. Approximately 23 lbs. (±15%) of specification asphalt per 100 sq. ft. should be used to embed each ply.

AWAPLAN 170: Starting at the low point of the roof, install 1 layer of TAMKO AWAPLAN 170 granule surfaced sheet, side lapped 4 in. and end lapped 6 in. The AWAPLAN 170 should be solidly adhered to the ply sheet (pressed into the hot asphalt) with approximately 23 lbs. (±15%) of specification asphalt per 100 sq. ft. The asphalt should be above 400° F at the point of application and mopped no more than 4 ft. in front of the roll.

Flashing: The flashing material **must** be a TAMKO polyester reinforced modified asphalt flashing material.

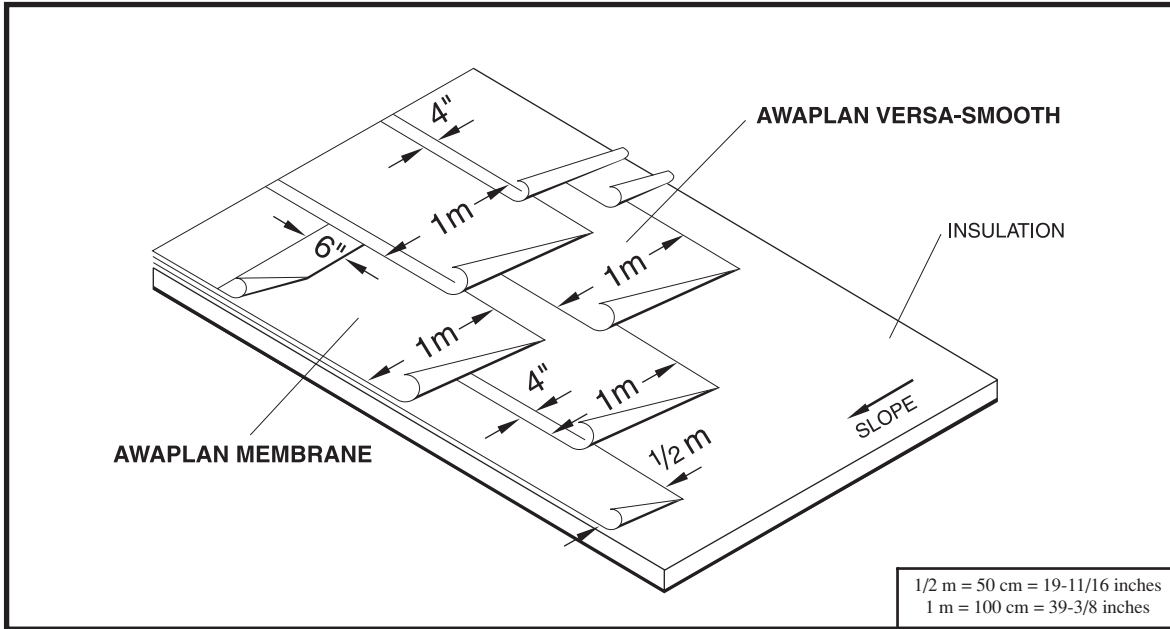
U.L. Requirements:
Contact TAMKO for information on U.L. systems requirements.

Caution: A product(s) in this specification contains crystalline silica and formaldehyde. Crystalline silica and formaldehyde have been classified as “known” human carcinogens by the International Agency for Research on Cancer (IARC) and the National Toxicology Program. A product(s) in this specification also contains oxidized asphalt. Occupational exposures to oxidized asphalt and its emissions during roofing have been classified by IARC as a “probable human carcinogen”. Oxidized asphalt also contains Polycyclic Aromatic Hydrocarbons some of which have been classified by IARC as known or probable human carcinogens. The physical nature of the product(s) in this specification may help limit any inhalation or dermal hazard during application and/or removal. However, physical forces such as sawing, grinding or drilling during demolition work and heating or burning may increase the inhalation or dermal exposure hazard of the product(s) in this specification. Take precautions to prevent breathing and contact with skin.

Application of product(s) in this specification using “hot mopped” applications may expose workers and others in the work area to oxidized asphalt and its emissions. The International Agency for



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Material Requirements

TAMKO AWAPLAN VERSA-SMOOTH	1 ply
TAMKO AWAPLAN 170 (Granule Surfaced)	1 ply
Asphalt (Per 100 sq. ft.)	Approx. 46 lbs.

Slope: Positive drainage up to 3 in. per linear ft. For slopes above 3/4 in. per linear ft., fastening of the AWAPLAN 170 is required.

Deck: The deck should conform to TAMKO general requirements.

Insulation: The insulation should be installed according to the manufacturer’s specification in the thickness required. The insulation should conform to TAMKO requirements. Polyisocyanurate and expanded polystyrene must have an overlay of a minimum 1/2 in. fiberboard, perlite, or fiberglass roof insulation.

Asphalt: The asphalt should be certified by the manufacturer to meet ASTM D-312, **Type III for slopes up to 1/4 in.** and **Type IV for slopes up to 3 in.**

AWAPLAN VERSA-SMOOTH: Starting at the low point of the roof, install 1 ply of TAMKO AWAPLAN VERSA-SMOOTH, beginning with a 1/2 m width, then a full 1 m width, side lapped 4 in. and end lapped 6 in. Apply at a right angle to the slope of the roof. The AWAPLAN VERSA-SMOOTH should be solidly adhered to the insulation (pressed into the hot asphalt) with approximately 23 lbs. (±15%) of specification asphalt per 100 sq. ft. The asphalt should be above 400° F at the point of application and mopped no more than 4 ft. in front of the roll.

Alternately, the AWAPLAN VERSA-SMOOTH can be heat welded and should be solidly adhered to the insulation by sufficiently heating the back side with a torch at the juncture of the insulation and the AWAPLAN VERSA-SMOOTH roll to form a bead of melted asphalt as the AWAPLAN VERSA-SMOOTH is rolled out. **Use care when applying heat as damage can occur to the product by overheating.**

AWAPLAN 170: Starting at the low point of the roof, install 1 layer of TAMKO AWAPLAN 170 granule surfaced sheet, side lapped 4 in. and end lapped 6 in. The AWAPLAN 170 should be solidly adhered to the base ply (pressed into the hot asphalt) with approximately 23 lbs. (±15%) of specification asphalt per 100 sq. ft. The asphalt should be above 400° F at the point of application and mopped no more than 4 ft. in front of the roll.

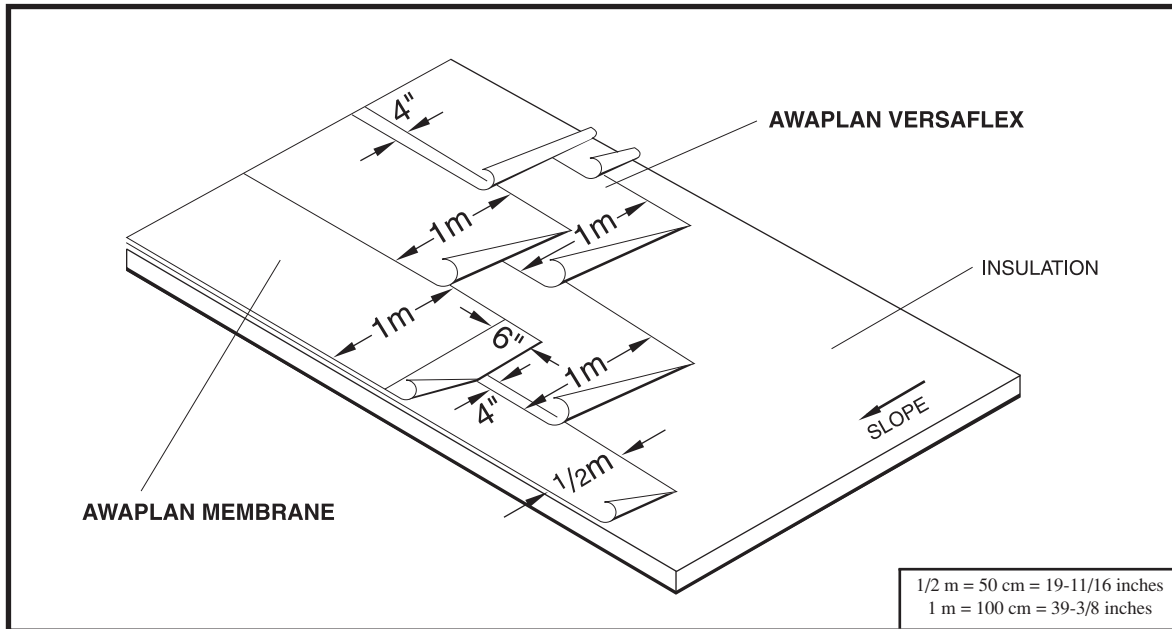
Flashing: The flashing material **must** be a TAMKO polyester reinforced modified asphalt flashing material.

U.L. Requirements:
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or burning may increase the inhalation or dermal exposure hazard of the product(s) in this specification. Take precautions to prevent breathing and contact with skin.

Application of product(s) in this specification using “torch applied” or “hot mopped” applications may expose workers and others in the work area to oxidized asphalt and its emissions. The International Agency for Research on Cancer has classified occupational exposures to oxidized asphalt and its emissions during roofing as a “probable human carcinogen.” During installation and removal of the product(s) in this specification, including “torch applied” or “hot mopped” application, workers must take precautions to assure adequate ventilation and use effective personal protective equipment to prevent exposures to dusts, fumes, vapors and mists. It is the responsibility of the contractor and workers to protect themselves and others in the work area from exposure to oxidized asphalt and its emissions when applying the product(s) in this specification.



Material Requirements

TAMKO AWAPLAN VERSAFLEX	1 ply
TAMKO AWAPLAN 170 (Granule Surfaced)	1 ply
Asphalt (Per 100 sq. ft.)	Approx. 46 lbs.

Slope: Positive drainage up to 3 in. per linear ft. **For slopes above 3/4 in. per linear ft.,** fastening of the AWAPLAN 170 is required.

Deck: The deck should conform to TAMKO general requirements.

Insulation: The insulation should be installed according to the manufacturer's specification in the thickness required. The insulation should conform to TAMKO requirements. Polyisocyanurate and expanded polystyrene must have an overlay of a minimum 1/2 in. fiberboard, perlite, or fiberglass roof insulation.

Asphalt: The asphalt should be certified by the manufacturer to meet ASTM D-312, **Type III for slopes up to 1/4 in.** and **Type IV for slopes up to 3 in.**

AWAPLAN VERSAFLEX: Starting at the low point of the roof, install 1 ply of TAMKO AWAPLAN VERSAFLEX, beginning with a 1/2 m width, then a full 1 m width, side lapped 4 in. and end lapped 6 in. Apply at a right angle to the slope of the roof. The AWAPLAN VERSAFLEX should be solidly adhered to the insulation (pressed into the hot asphalt) with approximately 23 lbs. ($\pm 15\%$) of specification asphalt per 100 sq. ft. The asphalt should be above 400° F at the point of application and mopped no more than 4 ft. in front of the roll.

AWAPLAN 170: Starting at the low point of the roof, install 1 layer of TAMKO AWAPLAN 170 granule surfaced sheet, side lapped 4 in. and end lapped 6 in. The AWAPLAN 170 should be solidly adhered to the base ply (pressed into the hot asphalt) with approximately 23 lbs. ($\pm 15\%$) of specification asphalt per 100 sq. ft. The asphalt should be above 400° F at the point of application and mopped no more than 4 ft. in front of the roll.

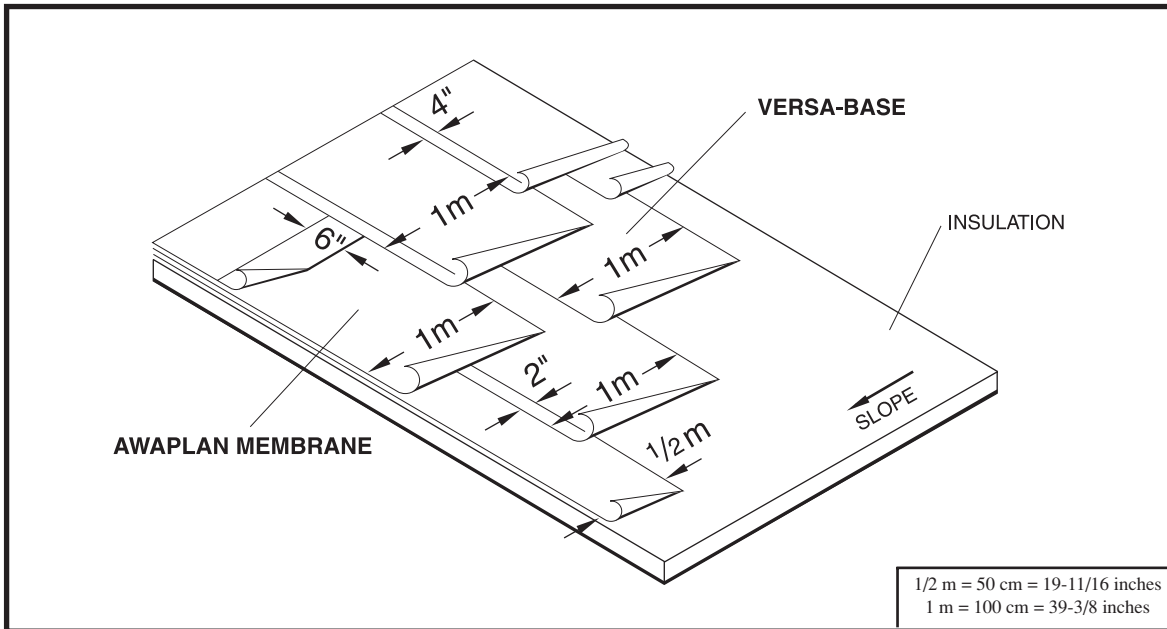
Flashing: The flashing material **must** be a TAMKO polyester reinforced modified asphalt flashing material.

U.L. Requirements: Contact TAMKO for information on U.L. systems requirements.

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or burning may increase the inhalation or dermal exposure hazard of the product(s) in this specification. Take precautions to prevent breathing and contact with skin.

Application of product(s) in this specification using “hot mopped” applications may expose workers and others in the work area to oxidized asphalt and its emissions. The International Agency for Research on Cancer has classified occupational exposures to oxidized asphalt and its emissions during roofing as a “probable human carcinogen.” During installation and removal of the product(s) in this specification, including “hot mopped” application, workers must take precautions to assure adequate ventilation and use effective personal protective equipment to prevent exposures to dusts, fumes, vapors and mists. It is the responsibility of the contractor and workers to protect themselves and others in the work area from exposure to oxidized asphalt and its emissions when applying the product(s) in this specification.



Material Requirements

TAMKO VERSA-BASE® Modified Asphalt Base Sheet	1 ply
TAMKO AWAPLAN 170 (Granule Surfaced)	1 ply
Asphalt (Per 100 sq. ft.)	Approx. 46 lbs.

Slope: Positive drainage up to 3 in. per linear ft. For slopes above 3/4 in. per linear ft., fastening of the AWAPLAN 170 is required.

Deck: The deck should conform to TAMKO general requirements.

Insulation: The insulation should be installed according to the manufacturer’s specification in the thickness required. The insulation should conform to TAMKO requirements. Polyisocyanurate and expanded polystyrene must have an overlay of a minimum 1/2 in. fiberboard, perlite, or fiberglass roof insulation.

Asphalt: The asphalt should be certified by the manufacturer to meet ASTM D-312, **Type III for slopes up to 1/4 in.** and **Type IV for slopes up to 3 in.**

VERSA-BASE Sheet: Starting at the low point of the roof, install 1 ply of TAMKO VERSA-BASE, beginning with a 1/2 m width, then a full 1 m width, side lapped 2 in. and end lapped 4 in. Apply at a right angle to the slope of the roof. Solid mop to the insulation with approximately 23 lbs. (±15%) of specification asphalt per 100 sq. ft. The asphalt should be above 400° F at the point of application and mopped no more than 4 ft. in front of the roll.

AWAPLAN 170: Starting at the low point of the roof, install 1 layer of TAMKO AWAPLAN 170 granule surfaced sheet, side lapped 4 in. and end lapped 6 in. The AWAPLAN 170 should be solidly adhered to the base ply (pressed into the hot asphalt) with approximately 23 lbs. (±15%) of specification asphalt per 100 sq. ft. The asphalt should be above 400° F at the point of application and mopped no more than 4 ft. in front of the roll.

Flashing: The flashing material **must** be a TAMKO polyester reinforced modified asphalt flashing material.

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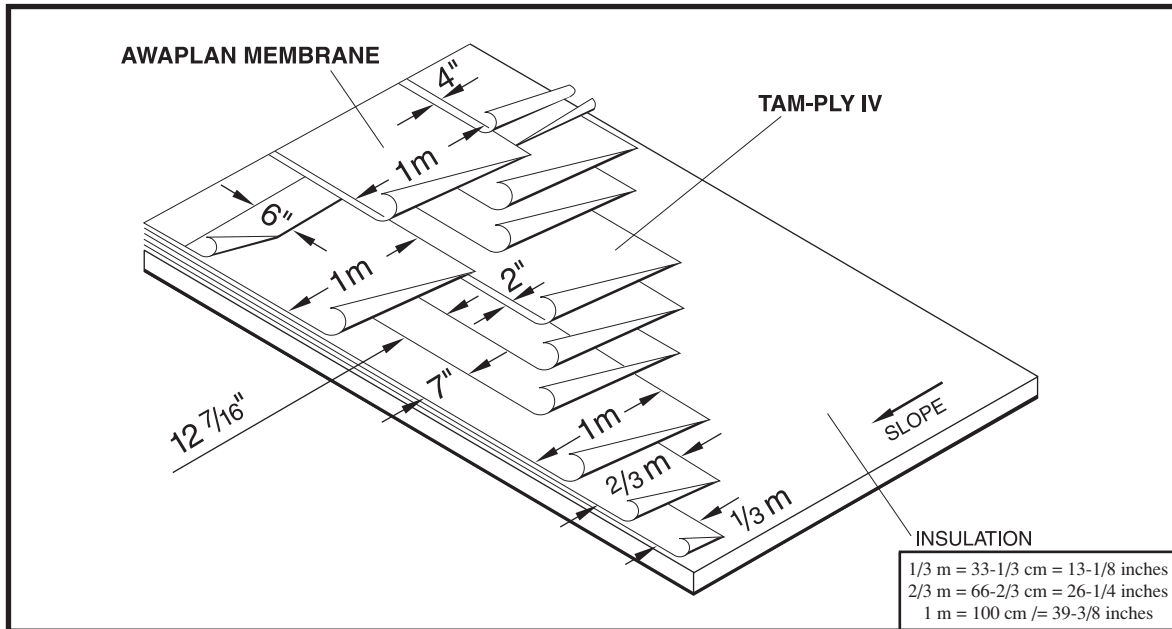
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For complete information on TAMKO’s recommendations and requirements, consult TAMKO’s web site at www.tamko.com
TAMKO Building Products, Inc., P. O. Box 1404, Joplin, MO 64802 • 1-800-641-4691 • www.tamko.com

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Material Requirements

TAMKO TAM-PLY IV® Fiberglass Ply Sheet	3 plies
TAMKO AWAPLAN 170 (Granule Surfaced)	1 ply
Asphalt (Per 100 sq. ft.)	Approx. 92 lbs.

Slope: Positive drainage up to 3 in. per linear ft. For slopes above 3/4 in. per linear ft., fastening of the AWAPLAN 170 is required.

Deck: The deck should conform to TAMKO general requirements.

Insulation: The insulation should be installed according to the manufacturer’s specification in the thickness required. The insulation should conform to TAMKO requirements. Polyisocyanurate and expanded polystyrene must have an overlay of a minimum 1/2 in. fiberboard, perlite, or fiberglass roof insulation.

Asphalt: The asphalt should be certified by the manufacturer to meet ASTM D-312, Type III for slopes up to 1/4 in. and Type IV for slopes up to 3 in.

Fiberglass Ply Sheets: Over the insulation, install 3 plies of TAMKO TAM-PLY IV in specification asphalt. Starting from the low point of the roof, apply a 1/3 m width, then a 2/3 m width. Follow with full 1 m widths, shingle fashion, lapping each ply 26-15/16 in. in such a manner so that at least 3 plies of ply sheet cover the insulation at any point. Approximately 23 lbs. (±15%) of specification asphalt per 100 sq. ft. should be used to embed each ply.

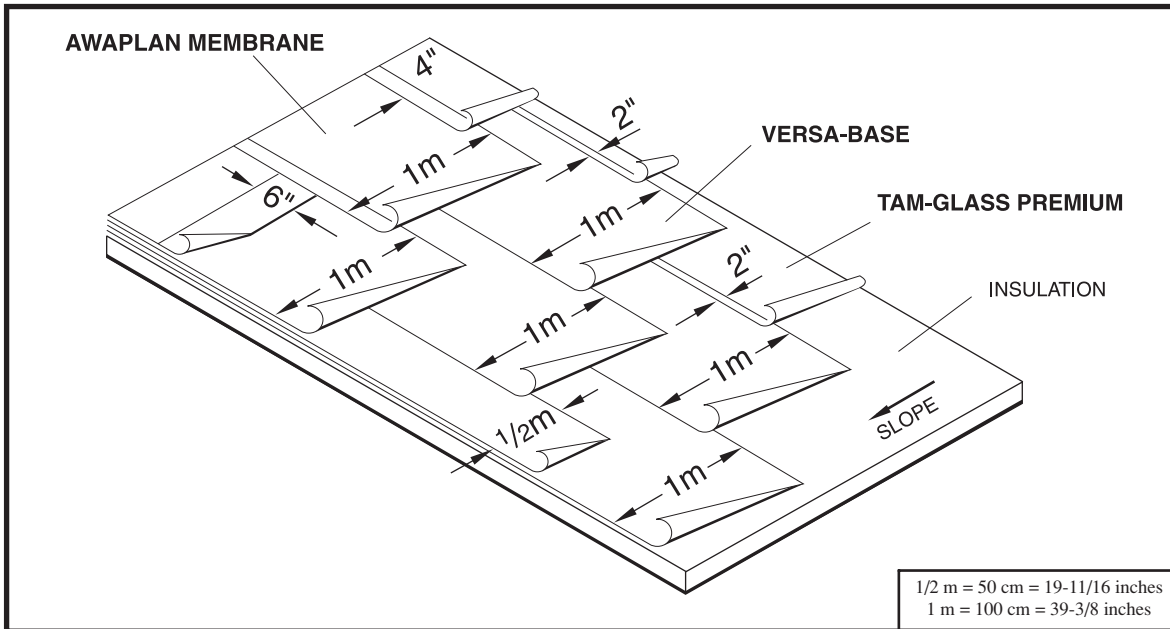
AWAPLAN 170: Starting at the low point of the roof, install 1 layer of TAMKO AWAPLAN 170 granule surfaced sheet, side lapped 4 in. and end lapped 6 in. The AWAPLAN 170 should be solidly adhered to the base ply (pressed into the hot asphalt) with approximately 23 lbs. (±15%) of specification asphalt per 100 sq. ft. The asphalt should be above 400° F at the point of application and mopped no more than 4 ft. in front of the roll.

Flashing: The flashing material must be a TAMKO polyester reinforced modified asphalt flashing material.

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Material Requirements

TAMKO TAM-GLASS PREMIUM® Fiberglass Ply Sheet	1 ply
TAMKO VERSA-BASE® Base Sheet	1 ply
TAMKO AWAPLAN 170 (Granule Surfaced)	1 ply
Asphalt (Per 100 sq. ft.)	Approx. 69 lbs.

Slope: Positive drainage up to 3 in. per linear ft. **For slopes above 3/4 in. per linear ft.,** fastening of the AWAPLAN 170 is required.

Deck: The deck should conform to TAMKO general requirements.

Insulation: The insulation should be installed according to the manufacturer's specification in the thickness required. The insulation should conform to TAMKO requirements. Polyisocyanurate and expanded polystyrene must have an overlay of a minimum 1/2 in. fiberboard, perlite, or fiberglass roof insulation.

Asphalt: The asphalt should be certified by the manufacturer to meet ASTM D-312, **Type III for slopes up to 1/4 in.** and **Type IV for slopes up to 3 in.**

TAM-GLASS PREMIUM: Starting at the low point of the roof, install one ply of TAM-GLASS PREMIUM, side lapped 2 in. and end lapped 4 in. Apply at a right angle to the slope of the roof. Solid mop to the insulation with approximately 23 lbs. ($\pm 15\%$) of specification asphalt per 100 sq. ft.

VERSA-BASE Sheet: Starting at the low point of the roof, install one ply of TAMKO VERSA-BASE, beginning with a 1/2 m width, then a full 1 m width, side lapped 2 in. and end lapped 4 in. Apply at a right angle to the slope of the roof. Solid mop to the base ply with approximately 23 lbs. ($\pm 15\%$) of specification asphalt per 100 sq. ft. The asphalt should be above 400° F at the point of application and mopped no more than 4 ft. in front of the roll.

Note: It is acceptable to invert the TAM-GLASS PREMIUM and the VERSA-BASE.

AWAPLAN 170: Starting at the low point of the roof, install 1 layer of TAMKO AWAPLAN 170 granule surfaced sheet, side lapped 4 in. and end lapped 6 in. The AWAPLAN 170 should be solidly adhered to the ply sheet (pressed into the hot asphalt) with approximately 23 lbs. ($\pm 15\%$) of specification asphalt per 100 sq. ft. The asphalt should be above 400° F at the point of application and mopped no more than 4 ft. in front of the roll.

Flashing: The flashing material **must** be a TAMKO polyester reinforced modified asphalt flashing material.

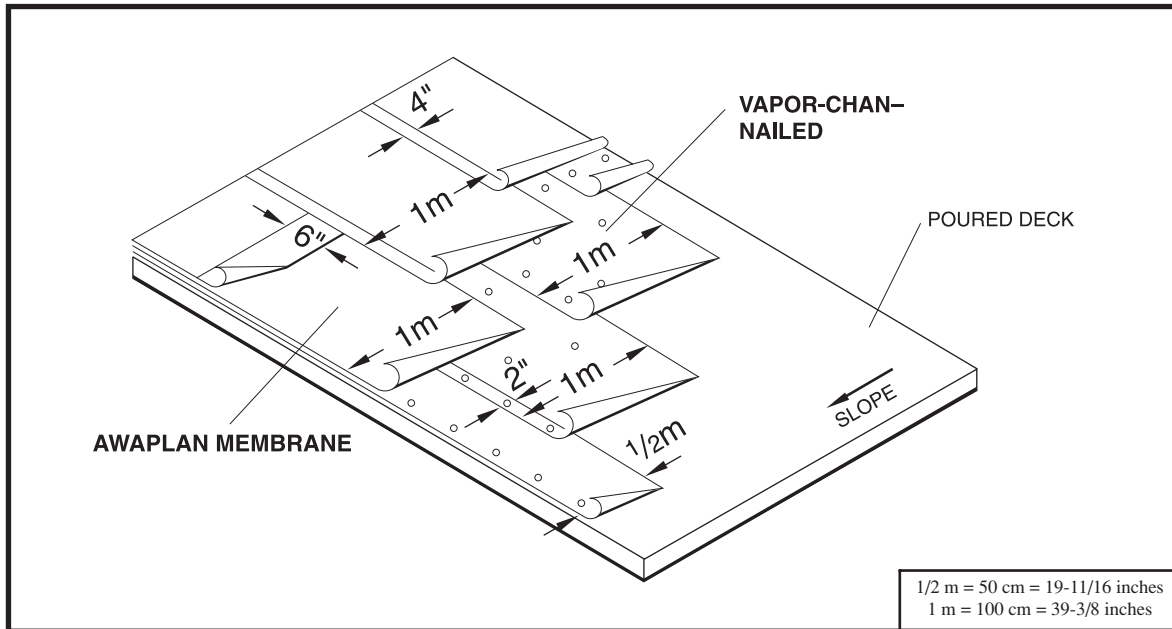
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Material Requirements

TAMKO VAPOR-CHAN [®] Fiberglass Venting Asphalt Base Sheet	1 ply
TAMKO AWAPLAN 170 (Granule Surfaced)	1 ply
Asphalt (Per 100 sq. ft.)	Approx. 23 lbs.
Clinch-type nails for base sheet (per 100 sq ft.)	Approx. 100 nails

Slope: Positive drainage up to 3 in. per linear ft. **For slopes above 3/4 in. per linear ft.,** fastening of the AWAPLAN 170 is required.

Deck: The deck should conform to TAMKO general requirements.

Asphalt: The asphalt should be certified by the manufacturer to meet ASTM D-312, **Type III for slopes up to 1/4 in.** and **Type IV for slopes up to 3 in.**

VAPOR-CHAN: Starting at the low point of the roof, install 1 ply of TAMKO VAPOR-CHAN, beginning with a 1/2 m width, then a full 1 m width, side lapped 2 in. and end lapped 4 in. Apply at a right angle to the slope of the roof. Nail the sheets along the lap at intervals of no more than 8 in. Stagger-nail down the center of the sheet on 16 in. centers along 2 lines located 13 in. from each edge of the base sheet. For specific fastening patterns for wind uplift listings, contact the Technical Services Department.

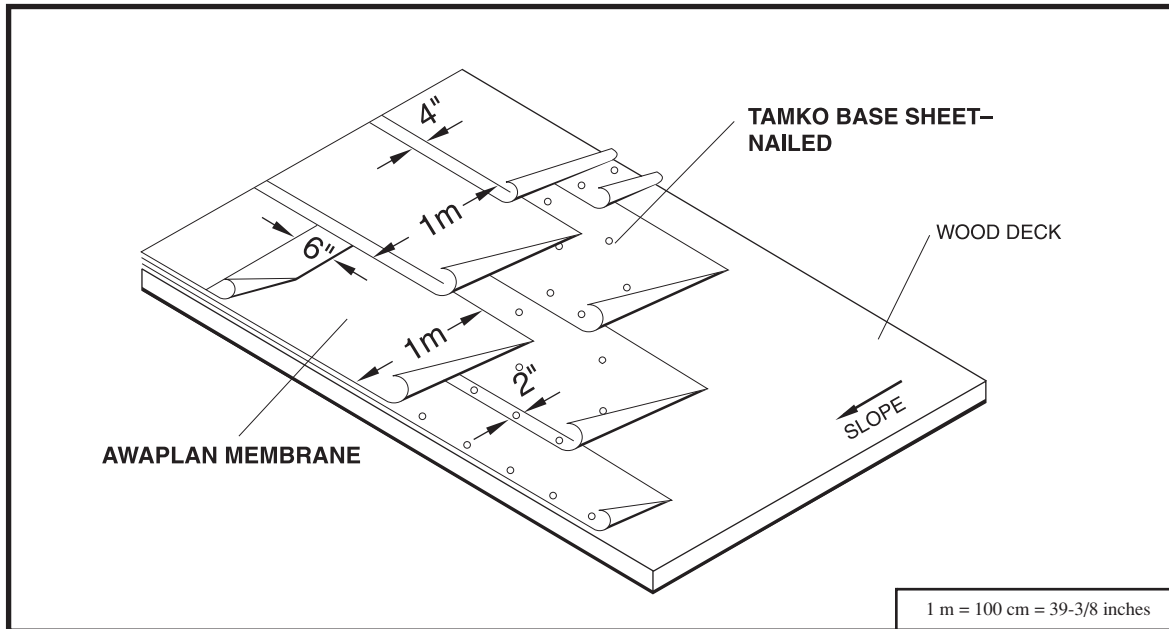
AWAPLAN 170: Starting at the low point of the roof, install 1 layer of TAMKO AWAPLAN 170 granule surfaced sheet, side lapped 4 in. and end lapped 6 in. The AWAPLAN 170 should be solidly adhered to the base ply (pressed into the hot asphalt) with approximately 23 lbs. (±15%) of specification asphalt per 100 sq. ft. The asphalt should be above 400° F at the point of application and mopped no more than 4 ft. in front of the roll.

Flashing: The flashing material **must** be a TAMKO polyester reinforced modified asphalt flashing material.

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Material Requirements

TAMKO TYPE 43 Coated Base Sheet, TAMKO GLASS-BASE®, or BASE-N-PLY® Base Sheet	1 ply
TAMKO AWAPLAN 170 (Granule Surfaced)	1 ply
Asphalt (Per 100 sq. ft.)	Approx. 23 lbs.
Clinch-type nails for base sheet (per 100 sq ft.)	Approx. 100 nails

Slope: Positive drainage up to 3 in. per linear ft. For slopes above 3/4 in. per linear ft., fastening of the AWAPLAN 170 is required.

Deck: The deck should conform to TAMKO general requirements.

Asphalt: The asphalt should be certified by the manufacturer to meet ASTM D-312, Type III for slopes up to 1/4 in. and Type IV for slopes up to 3 in.

Base Ply: Starting at the low point of the roof, install 1 ply of TAMKO TYPE 43 Coated Base Sheet, GLASS-BASE, or BASE-N-PLY, beginning with a 1/2 width, then a full width, side lapped 2 in. and end lapped 4 in. Apply at a right angle to the slope of the roof. Nail GLASS-BASE or BASE-N-PLY sheets along the lap at intervals of no more than 8 in. Stagger-nail on 16 in. centers along 2 lines located 13 in. from each edge of the base sheet. Nail TYPE 43 Coated Base Sheet along the lap at intervals of no more than 9 in. Stagger-nail on 18 in. centers along 2 lines located 12 in. from each edge of the base sheet. For specific fastening patterns for wind uplift listings, contact the Technical Services Department.

AWAPLAN 170: Starting at the low point of the roof, install 1 layer of TAMKO AWAPLAN 170 granule surfaced sheet, side lapped 4 in. and end lapped 6 in. The AWAPLAN 170 should be solidly adhered to the base ply (pressed into the hot asphalt) with approximately 23 lbs. (±15%) of specification asphalt per 100 sq. ft. The asphalt should be above 400° F at the point of application and mopped no more than 4 ft. in front of the roll.

Flashing: The flashing material must be a TAMKO polyester reinforced modified asphalt flashing material.

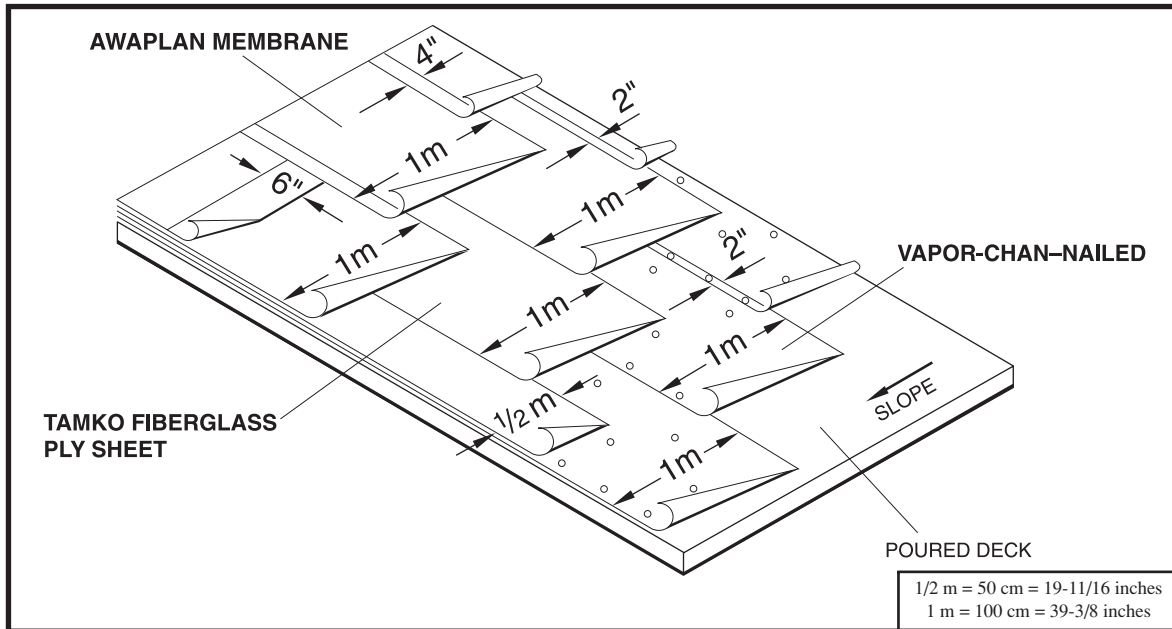
U.L. Requirements: Contact TAMKO for information on U.L. systems requirements.

Caution: A product(s) in this specification contains crystalline silica, formaldehyde and wood dust. Crystalline silica, formaldehyde and wood dust have been classified as “known” human carcinogens by the International Agency for Research on Cancer (IARC) and the National Toxicology Program. A product(s) in this specification also contains oxidized asphalt. Occupational exposures to oxidized asphalt and its emissions during roofing have been classified by IARC as a “probable human carcinogen”. Oxidized asphalt also contains Polycyclic Aromatic Hydrocarbons some of which have been classified by IARC as known or probable human carcinogens. The physical nature of the product(s) in this specification may help limit any inhalation or dermal hazard during application and/or removal. However, physical forces such as sawing, grinding or drilling during demolition work and heating or burning may increase the inhalation or dermal exposure hazard of the product(s) in this specification. Take precautions to prevent breathing and contact with skin.

Application of product(s) in this specification using “hot mopped” applications may expose workers and others in the work area to



oxidized asphalt and its emissions. The International Agency for Research on Cancer has classified occupational exposures to oxidized asphalt and its emissions during roofing as a "probable human carcinogen." During installation and removal of the product(s) in this specification, including "hot mopped" application, workers must take precautions to assure adequate ventilation and use effective personal protective equipment to prevent exposures to dusts, fumes, vapors and mists. It is the responsibility of the contractor and workers to protect themselves and others in the work area from exposure to oxidized asphalt and its emissions when applying the product(s) in this specification.



Material Requirements

TAMKO VAPOR-CHAN® Fiberglass Venting Asphalt Base Sheet	1 ply
TAMKO TAM-GLASS PREMIUM® or TAM-PLY IV® Fiberglass Ply Sheet	1 ply
TAMKO AWAPLAN 170 (Granule Surfaced)	1 ply
Asphalt (Per 100 sq. ft.)	Approx. 46 lbs.
Clinch-type nails for base sheet (per 100 sq ft.)	Approx. 100 nails

Slope: Positive drainage up to 3 in. per linear ft. **For slopes above 3/4 in. per linear ft.,** fastening of the AWAPLAN 170 is required.

Deck: The deck should conform to TAMKO general requirements.

Asphalt: The asphalt should be certified by the manufacturer to meet ASTM D-312, **Type III** for slopes up to 1/4 in. and **Type IV** for slopes up to 3 in.

VAPOR-CHAN: Starting at the low point of the roof, install 1 ply of TAMKO VAPOR-CHAN, side lapped 2 in. and end lapped 4 in. Apply at a right angle to the slope of the roof. Nail the sheets along the lap at intervals of no more than 8 in. Stagger-nail down the center of the sheet on 16 in. centers along 2 lines located 13 in. from each edge of the base sheet. **For specific fastening patterns for wind uplift listings, contact the Technical Services Department.**

Fiberglass Ply Sheet: Starting at the low point of the roof, install a 1/2 m width, then a full 1 m width of TAM-GLASS PREMIUM or TAM-PLY IV, side-lapped 2 in. and end lapped 4 in. Apply at a right angle to the slope of the roof. Solid mop to the base ply with approximately 23 lbs. (±15%) of specification asphalt.

AWAPLAN 170: Starting at the low point of the roof, install 1 layer of TAMKO AWAPLAN 170 granule surfaced sheet, side lapped 4 in. and end lapped 6 in. The AWAPLAN 170 should be solidly adhered to the ply sheet (pressed into the hot asphalt) with approximately 23 lbs. (±15%) of specification asphalt per 100 sq. ft. The asphalt should be above 400° F at the point of application and mopped no more than 4 ft. in front of the roll.

Flashing: The flashing material **must** be a TAMKO polyester reinforced modified asphalt flashing material.

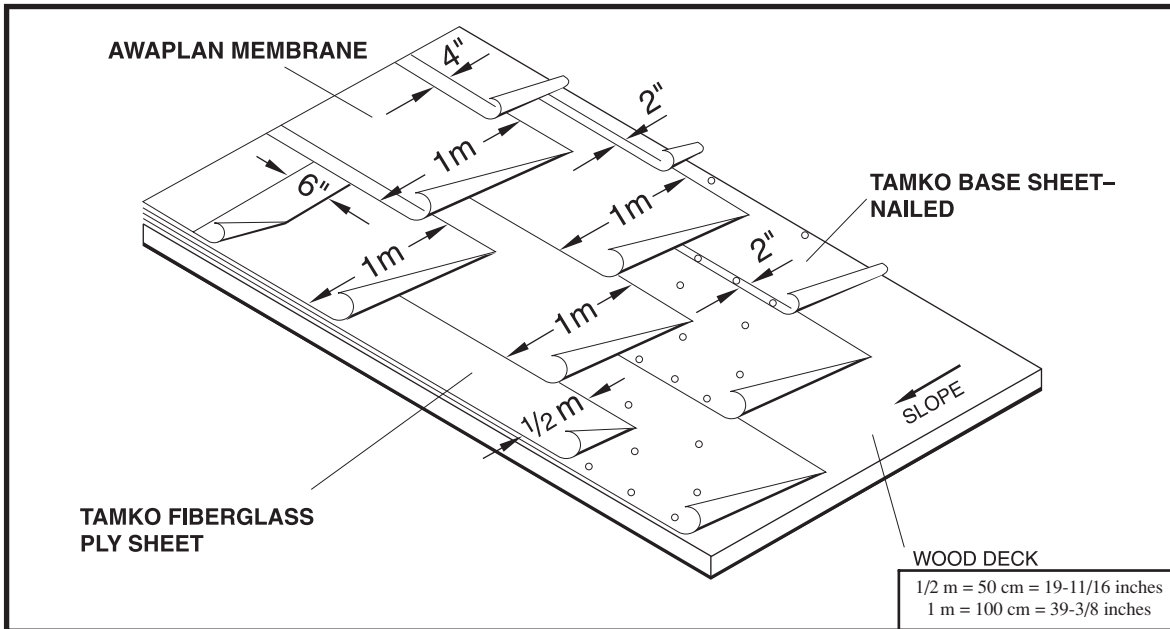
U.L. Requirements:
Contact TAMKO for information on U.L. systems requirements.

Caution: A product(s) in this specification contains crystalline silica and formaldehyde. Crystalline silica and formaldehyde have been classified as “known” human carcinogens by the International Agency for Research on Cancer (IARC) and the National Toxicology Program. A product(s) in this specification also contains oxidized asphalt. Occupational exposures to oxidized asphalt and its emissions during roofing have been classified by IARC as a “probable human carcinogen”. Oxidized asphalt also contains Polycyclic Aromatic Hydrocarbons some of which have been classified by IARC as known or probable human carcinogens. The physical nature of the product(s) in this specification may help limit any inhalation or dermal hazard during application and/or removal. However, physical forces such as sawing, grinding or drilling during

demolition work and heating or burning may increase the inhalation or dermal exposure hazard of the product(s) in this specification. Take precautions to prevent breathing and contact with skin.

Application of product(s) in this specification using “hot mopped” applications may expose workers and others in the work area to oxidized asphalt and its emissions. The International Agency for Research on Cancer has classified occupational exposures to oxidized asphalt and its emissions during roofing as a “probable human carcinogen.” During installation and removal of the product(s) in this specification, including “hot mopped” application, workers must take precautions to assure adequate ventilation and use effective personal protective equipment to prevent exposures to dusts, fumes, vapors and mists. It is the responsibility of the contractor and workers to protect themselves and others in the work area from exposure to oxidized asphalt and its emissions when applying the product(s) in this specification.

*Precast Concrete Decks: This specification may be utilized over a precast concrete deck when joints are taped and the VAPOR-CHAN is installed in spot moppings of specification asphalt spaced on (not to exceed) 24 in. centers.



Material Requirements

TAMKO TYPE 43 Coated Base Sheet, TAMKO GLASS-BASE®, or BASE-N-PLY® Base Sheet	1 ply
TAMKO TAM-GLASS PREMIUM® or TAM-PLY IV® Fiberglass Ply Sheet	1 ply
TAMKO AWAPLAN 170 (Granule Surfaced)	1 ply
Asphalt (Per 100 sq. ft.)	Approx. 46 lbs.
Clinch-type nails for base sheet (per 100 sq ft.)	Approx. 100 nails

Slope: Positive drainage up to 3 in. per linear ft. For slopes above 3/4 in. per linear ft., fastening of the AWAPLAN 170 is required.

Deck: The deck should conform to TAMKO general requirements.

Asphalt: The asphalt should be certified by the manufacturer to meet ASTM D-312, Type III for slopes up to 1/4 in. and Type IV for slopes up to 3 in.

Base Ply: Starting at the low point of the roof, install 1 ply of TAMKO TYPE 43 Coated Base Sheet, GLASS-BASE, or BASE-N-PLY, side lapped 2 in. and end lapped 4 in. Apply at a right angle to the slope of the roof. Nail GLASS-BASE or BASE-N-PLY sheets along the lap at intervals of no more than 8 in. Stagger-nail on 16 in. centers along 2 lines located 13 in. from each edge of the base sheet. Nail TYPE 43 Coated Base Sheet along the lap at intervals of no more than 9 in. Stagger-nail on 18 in. centers along 2 lines located 12 in. from each edge of the base sheet. For specific fastening patterns for wind uplift listings, contact the Technical Services Department.

Fiberglass Ply Sheet: Starting at the low point of the roof, install a 1/2 m width, then a full 1 m width of TAM-GLASS PREMIUM or TAM-PLY IV, side-lapped 2 in. and end lapped 4 in. Apply at a right angle to the slope of the roof. Solid mop to the base ply with approximately 23 lbs. (±15%) of specification asphalt.

AWAPLAN 170: Starting at the low point of the roof, install 1 layer of TAMKO AWAPLAN 170 granule surfaced sheet, side lapped 4 in. and end lapped 6 in. The AWAPLAN 170 should be solidly adhered to the ply sheet (pressed into the hot asphalt) with approximately 23 lbs. (±15%) of specification asphalt per 100 sq. ft. The asphalt should be above 400° F at the point of application and mopped no more than 4 ft. in front of the roll.

Flashing: The flashing material **must** be a TAMKO polyester reinforced modified asphalt flashing material.

U.L. Requirements: Contact TAMKO for information on U.L. systems requirements.

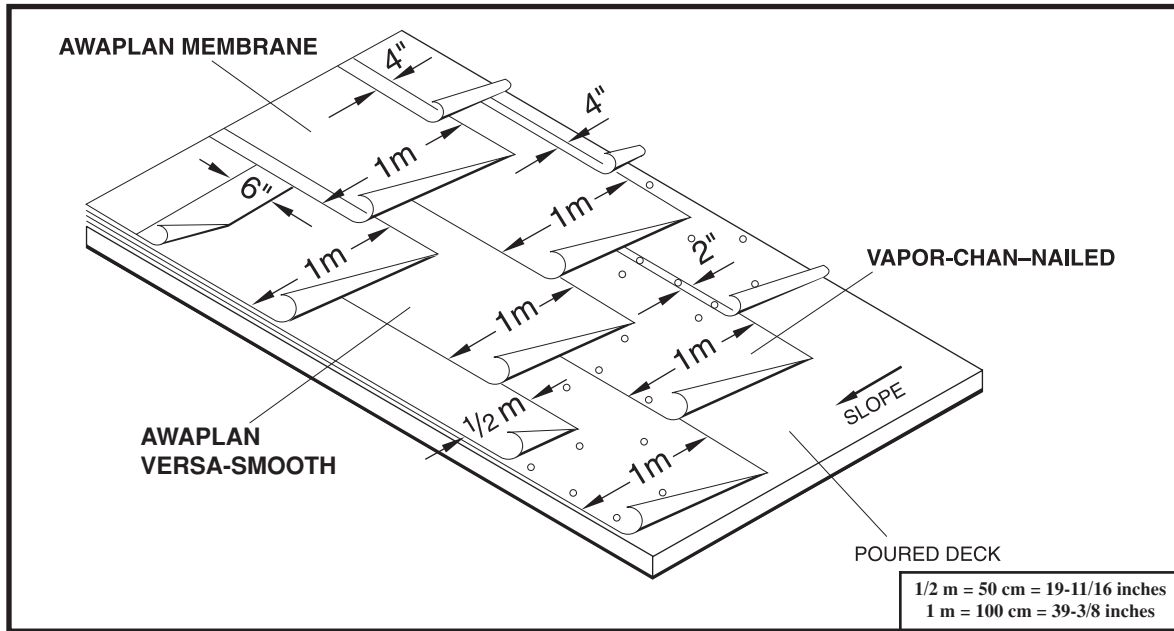
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For complete information on TAMKO’s recommendations and requirements, consult TAMKO’s web site at www.tamko.com
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Application of product(s) in this specification using “hot mopped” applications may expose workers and others in the work area to oxidized asphalt and its emissions. The International Agency for Research on Cancer has classified occupational exposures to oxidized asphalt and its emissions during roofing as a “probable human carcinogen.” During installation and removal of the product(s) in this specification, including “hot mopped” application, workers must take precautions to assure adequate ventilation and use effective personal protective equipment to prevent exposures to dusts, fumes, vapors and mists. It is the responsibility of the contractor and workers to protect themselves and others in the work area from exposure to oxidized asphalt and its emissions when applying the product(s) in this specification.



Material Requirements

TAMKO VAPOR-CHAN® Fiberglass Base Sheet	1 ply
TAMKO AWAPLAN VERSA-SMOOTH Modified Base Sheet	1 ply
TAMKO AWAPLAN 170 (Granule Surfaced)	1 ply
Asphalt (Per 100 sq. ft.)	Approx. 46 lbs.

Slope: Positive drainage up to 3 in. per linear ft. **For slopes above 3/4 in. per linear ft.,** fastening of the AWAPLAN 170 is required.

Deck: The deck should conform to TAMKO general requirements.

Asphalt: The asphalt should be certified by the manufacturer to meet ASTM D-312, **Type III for slopes up to 1/4 in.** and **Type IV for slopes up to 3 in.**

VAPOR-CHAN: Starting at the low point of the roof, install 1 ply of TAMKO VAPOR-CHAN, side lapped 2 in. and end lapped 4 in. Apply at a right angle to the slope of the roof. Nail the sheets along the lap at intervals of no more than 8 in. Stagger-nail down the center of the sheet on 16 in. centers along 2 lines located 13 in. from each edge of the base sheet. **For specific fastening patterns for wind uplift listings, contact the Technical Services Department.**

AWAPLAN VERSA-SMOOTH: Starting at the low point of the roof, install 1 ply of TAMKO AWAPLAN VERSA-SMOOTH, beginning with a 1/2 m width, then a full 1 m width, side lapped 4 in. and end lapped 6 in. Apply at a right angle to the slope of the roof. The AWAPLAN VERSA-SMOOTH should be solidly adhered to the base sheet (pressed into the hot asphalt) with ap-

proximately 23 lbs. (±15%) of specification asphalt per 100 sq. ft. The asphalt should be above 400° F at the point of application and mopped no more than 4 ft. in front of the roll.

Alternately, the AWAPLAN VERSA-SMOOTH can be heat welded and should be solidly adhered to the base sheet by sufficiently heating the back side with a torch at the juncture of the base sheet and the AWAPLAN VERSA-SMOOTH roll to form a bead of melted asphalt as the AWAPLAN VERSA-SMOOTH is rolled out. **Use care when applying heat as damage can occur to the product by overheating.**

AWAPLAN 170: Starting at the low point of the roof, install 1 ply of TAMKO AWAPLAN 170 granule surfaced sheet, side lapped 4 in. and end lapped 6 in. The AWAPLAN 170 should be solidly adhered to the ply sheet (pressed into the hot asphalt) with approximately 23 lbs. (±15%) of specification asphalt per 100 sq. ft. The asphalt should be above 400° F at the point of application and mopped no more than 4 ft. in front of the roll.

Flashing: The flashing material **must** be a TAMKO polyester reinforced modified asphalt flashing material.

U.L. Requirements:
Contact TAMKO for information on U.L. systems requirements.

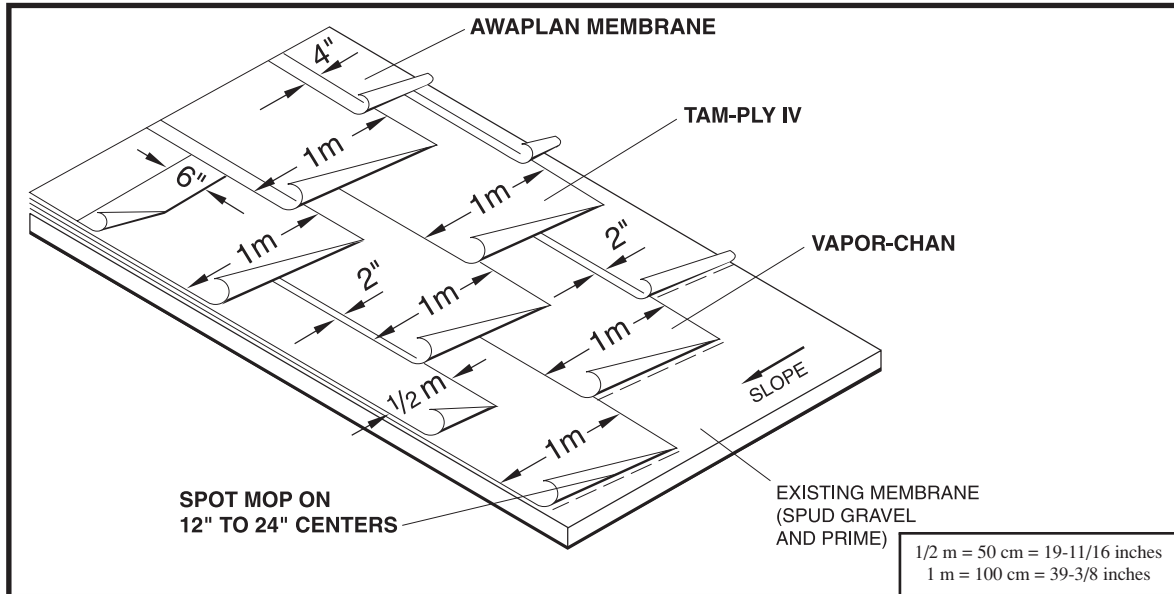
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inhalation or dermal hazard during application and/or removal. However, physical forces such as sawing, grinding or drilling during demolition work and heating or burning may increase the inhalation or dermal exposure hazard of the product(s) in this specification. Take precautions to prevent breathing and contact with skin.

Application of product(s) in this specification using “torch applied” or “hot mopped” applications may expose workers and others in the work area to oxidized asphalt and its emissions. The International Agency for Research on Cancer has classified occupational exposures to oxidized asphalt and its emissions during roofing as a “probable human carcinogen.” During installation and removal of the product(s) in this specification, including “torch applied” or “hot mopped” application, workers must take precautions to assure adequate ventilation and use effective personal protective equipment to prevent exposures to dusts, fumes, vapors and mists. It is the responsibility of the contractor and workers to protect themselves and others in the work area from exposure to oxidized asphalt and its emissions when applying the product(s) in this specification.

*Precast Concrete Decks: This specification may be utilized over a precast concrete deck when joints are taped and the VAPOR-CHAN is installed in spot moppings of specification asphalt spaced on (not to exceed) 24 in. centers.

RECOVER OVER EXISTING GRAVEL SURFACED MEMBRANE OR SMOOTH SURFACED MEMBRANE



Material Requirements

TAMKO VAPOR-CHAN® Fiberglass Venting Asphalt Base Sheet	1 ply
TAMKO TAM-PLY IV® Fiberglass Ply Sheet	1 ply
TAMKO AWAPLAN 170	1 ply
Interply Asphalt (Per 100 sq. ft.)	Approx. 46 lbs.
Concrete Primer (Per 100 sq. ft.)	Approx. 3/4 gal.

Slope: Positive drainage up to 3 in. per linear ft. For slopes above 3/4 in. per linear ft., fastening of the AWAPLAN 170 is required.

Asphalt: The asphalt should be certified by the manufacturer to meet ASTM D-312, **Type III for slopes up to 1/4 in.** and **Type IV for slopes up to 3 in.**

Preparation: Spud the membrane surface and remove all loose roofing gravel and debris. Make random cuts or breaks in the old membrane 4 ft. o.c. to allow vapor pressure to vent. All wet or deteriorated insulation or membrane must be removed and replaced prior to the application of new roofing materials. The surface should be primed with concrete primer at a rate of approximately 3/4 gal. per 100 sq. ft. prior to the application of new roofing materials.

VAPOR-CHAN: Over the old membrane and starting at the low point of the roof, install 1 ply of TAMKO VAPOR-CHAN Base Sheet. The VAPOR-CHAN should be side lapped 2 in. and end lapped 4 in. The base ply should be secured to the old membrane with spots of Type III, Steep Asphalt spaced on (not to exceed) 24 in. centers.

TAM-PLY IV: Starting at the low point of the roof, install 1 ply of TAM-PLY IV, beginning with a 1/2 m width, then a full 1 m width, side-lapped 2 in. and end lapped 4 in. Apply at a right angle to the slope of the roof. Solid mop to the base ply with approximately 23 lbs. (±15%) of specification asphalt per 100 sq. ft.

AWAPLAN 170: Starting at the low point of the roof, install 1 ply of TAMKO AWAPLAN 170 granule surfaced sheet, side lapped 4 in. and end lapped 6 in. The AWAPLAN 170 should be solidly adhered to the ply sheet (pressed into the hot asphalt) with approximately 23 lbs. (±15%) of specification asphalt per 100 sq. ft. The asphalt should be above 400° F at the point of application and mopped no more than 4 ft. in front of the roll.

Flashing: The flashing material **must** be a TAMKO polyester reinforced modified asphalt flashing material.

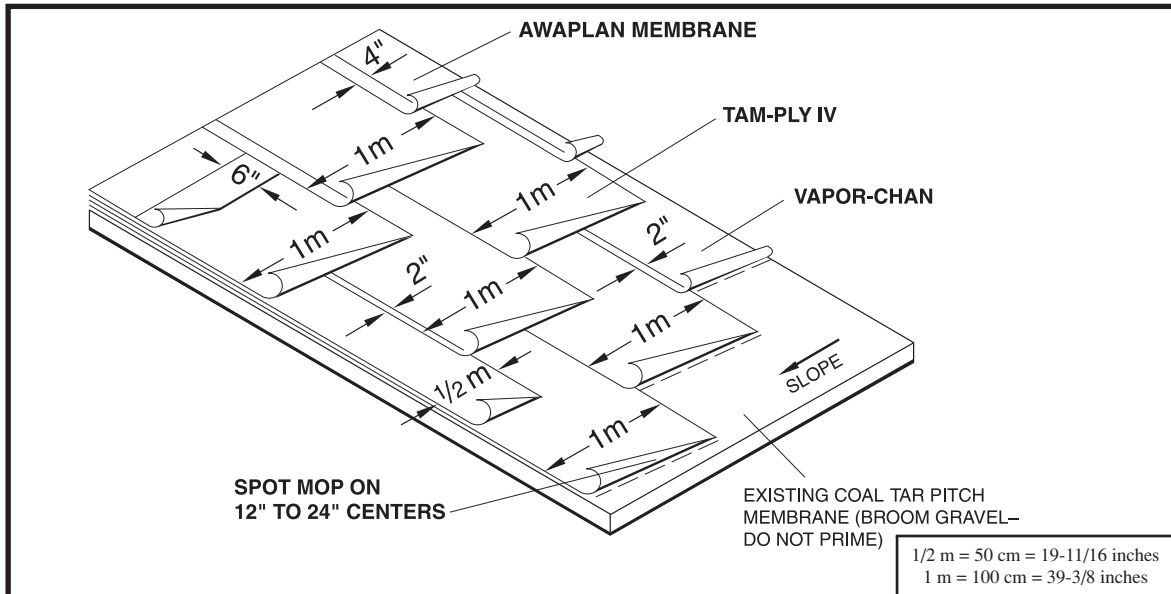
Venting: One-way roof vents may be placed at a minimum of 1 vent for each 10 squares of roof area.

U.L. Requirements:
Contact TAMKO for information on U.L. systems requirements.

Caution: A product(s) in this specification contains crystalline silica and formaldehyde. Crystalline silica and formaldehyde have been classified as “known” human carcinogens by the International Agency for Research on Cancer (IARC) and the National Toxicology Program. A product(s) in this specification also contains oxidized asphalt. Occupational exposures to oxidized asphalt and its emissions during roofing have been classified by IARC as a “probable human carcinogen”. Oxidized asphalt also contains Polycyclic Aromatic Hydrocarbons some of which have been classified by IARC as known or probable human carcinogens. The physical nature of the product(s) in this

specification may help limit any inhalation or dermal hazard during application and/or removal. However, physical forces such as sawing, grinding or drilling during demolition work and heating or burning may increase the inhalation or dermal exposure hazard of the product(s) in this specification. Take precautions to prevent breathing and contact with skin.

Application of product(s) in this specification using “hot mopped” applications may expose workers and others in the work area to oxidized asphalt and its emissions. The International Agency for Research on Cancer has classified occupational exposures to oxidized asphalt and its emissions during roofing as a “probable human carcinogen.” During installation and removal of the product(s) in this specification, including “hot mopped” application, workers must take precautions to assure adequate ventilation and use effective personal protective equipment to prevent exposures to dusts, fumes, vapors and mists. It is the responsibility of the contractor and workers to protect themselves and others in the work area from exposure to oxidized asphalt and its emissions when applying the product(s) in this specification.



Material Requirements

TAMKO VAPOR-CHAN® Fiberglass Venting Asphalt Base Sheet	1 ply
TAMKO TAM-PLY IV® Fiberglass Ply Sheet	1 ply
TAMKO AWAPLAN 170	1 ply
Interply Asphalt (Per 100 sq. ft.)	Approx. 46 lbs.

Slope: Positive drainage up to 3 in. per linear ft. **For slopes above 3/4 in. per linear ft.,** fastening of the AWAPLAN membrane is required.

Asphalt: The asphalt should be certified by the manufacturer to meet ASTM D-312, **Type III for slopes up to 1/4 in.** and **Type IV for slopes up to 3 in.**

Preparation: Broom the membrane surface and remove all loose roofing gravel and debris. Make random cuts or breaks in the old membrane 4 ft. o.c. to allow vapor pressure to vent from the old system and any existing insulation materials. All wet or deteriorated insulation or membrane must be removed and replaced prior to the application of new roofing materials. **DO NOT USE ANY PRIMERS.**

VAPOR-CHAN: Over the old membrane and starting at the low point of the roof, install 1 ply of TAMKO VAPOR-CHAN Base Sheet. The VAPOR-CHAN should be side lapped 2 in. and end lapped 4 in. The base ply should be secured to the old membrane with spots of Type III, Steep Asphalt spaced on (not to exceed) 24 in. centers.

TAM-PLY IV: Starting at the low point of the roof, install 1 ply of TAM-PLY IV, beginning with a 1/2 m width, then a full 1 m width, side-lapped 2 in. and end lapped 4 in. Apply at a right angle to the slope of the roof. Solid mop to the base ply with approximately 23 lbs. (±15%) of specification asphalt per 100 sq. ft.

AWAPLAN 170: Starting at the low point of the roof, install 1 ply of TAMKO AWAPLAN 170 granule surfaced sheet, side lapped 4 in. and end lapped 6 in. The AWAPLAN 170 should be solidly adhered to the ply sheet (pressed into the hot asphalt) with approximately 23 lbs. (±15%) of specification asphalt per 100 sq. ft. The asphalt should be above 400° F at the point of application and mopped no more than 4 ft. in front of the roll.

Flashing: The flashing material **must** be a TAMKO polyester reinforced modified asphalt flashing material.

Venting: One-way roof vents may be placed at a minimum of 1 vent for each 10 squares of roof area.

U.L. Requirements:
Contact TAMKO for information on U.L. systems requirements.

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SPECIFICATION SUBMITTAL

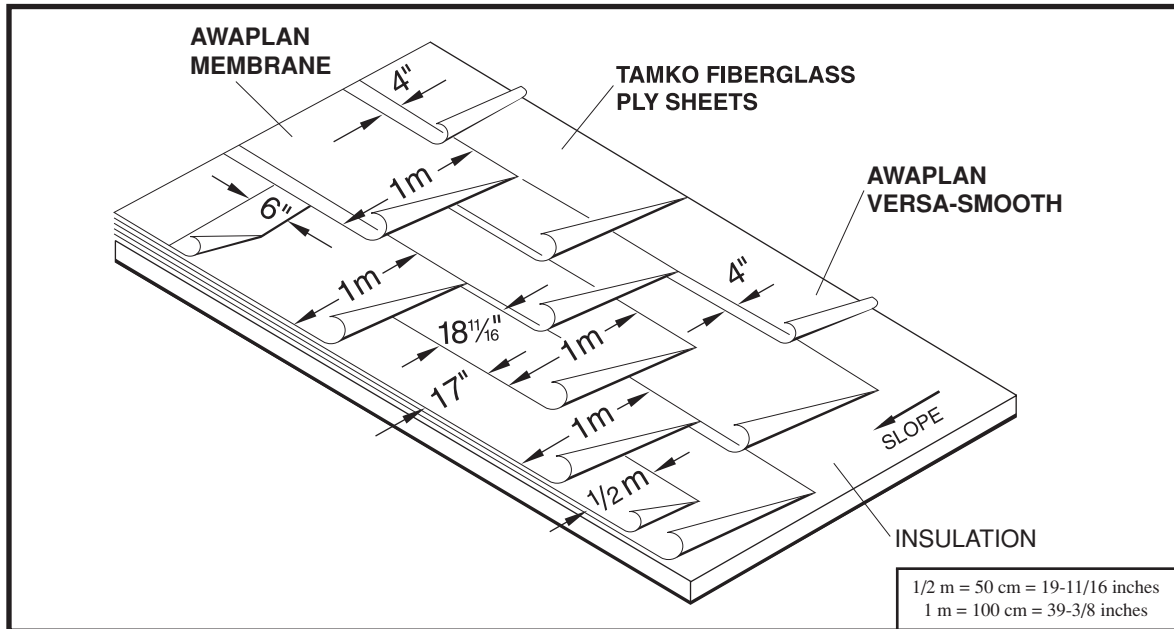
236 AWAPLAN 170

RECOVER OVER EXISTING GRAVEL SURFACED
MEMBRANE (COAL-TAR PITCH)

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Application of product(s) in this specification using "hot mopped" applications may expose workers and others in the work area to oxidized asphalt and its emissions. The International Agency for Research on Cancer has classified occupational exposures to oxidized asphalt and its emissions during roofing as a "probable human carcinogen." During installation and removal of the product(s) in this specification, including "hot mopped" application, workers must take precautions to assure adequate ventilation and use effective personal protective equipment to prevent exposures to dusts, fumes, vapors and mists. It is the responsibility of the contractor and workers to protect themselves and others in the work area from exposure to oxidized asphalt and its emissions when applying the product(s) in this specification.

For complete information on TAMKO's recommendations and requirements, consult TAMKO's web site at www.tamko.com
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Material Requirements

TAMKO AWAPLAN VERSA-SMOOTH	1 ply
TAMKO TAM-PLY IV® OR TAM-GLASS PREMIUM Fiberglass Ply Sheet	2 plies
TAMKO AWAPLAN 170 (Granule Surfaced)	1 ply
Interply Asphalt (Per 100 sq. ft.)	Approx. 92 lbs.

Slope: Positive drainage up to 3 in. per linear ft. **For slopes above 3/4 in. per linear ft.,** fastening of the AWAPLAN 170 is required.

Deck: The deck should conform to TAMKO general requirements.

Insulation: The insulation should be installed according to the manufacturer's specification in the thickness required. The insulation should conform to TAMKO requirements. Polyisocyanurate and expanded polystyrene must have an overlay of a minimum 1/2 in. fiberboard, perlite, or fiberglass roof insulation.

Asphalt: The asphalt should be certified by the manufacturer to meet ASTM D-312, **Type III for slopes up to 1/4 in.** and **Type IV for slopes up to 3 in.**

AWAPLAN VERSA-SMOOTH: Starting at the low point of the roof, install 1 ply of TAMKO AWAPLAN VERSA-SMOOTH, side lapped 4 in. and end lapped 6 in. Apply at a right angle to the slope of the roof. The AWAPLAN VERSA-SMOOTH should be solidly adhered to the insulation (pressed into the hot asphalt) with approximately 23 lbs. (±15%) of specification asphalt per 100 sq. ft. The asphalt should be above 400° F at the point of application and mopped no more than 4 ft. in front of the roll.

*Except in FL, TX, NM, AZ, CA

Alternately, the AWAPLAN VERSA-SMOOTH may be installed by sufficiently heating the back side with a torch at the juncture of the insulation and the AWAPLAN VERSA-SMOOTH roll to form a bead of melted asphalt as the AWAPLAN VERSA-SMOOTH is rolled out. **Use care when applying heat as damage can occur to the product by overheating.**

Fiberglass Ply Sheet 2 Ply Installation: Over the base ply, install 2 plies of TAM-GLASS PREMIUM or TAM-PLY IV in specification asphalt. Starting from the low point of the roof, apply a 1/2 m width, then a full 1 m width. Follow with full 1 m widths, shingle fashion, lapping each ply 20-11/16 in. in such a manner so that at least 2 plies cover the base ply at any one point. Approximately 23 lbs. (±15%) of specification asphalt per 100 sq. ft. should be used to embed each ply.

AWAPLAN 170: Starting at the low point of the roof, install 1 ply of TAMKO AWAPLAN 170 granule surfaced sheet, side lapped 4 in. and end lapped 6 in. The AWAPLAN 170 should be solidly adhered to the ply sheet (pressed into the hot asphalt) with approximately 23 lbs. (±15%) of specification asphalt per 100 sq. ft. The asphalt should be above 400° F at the point of application and mopped no more than 4 ft. in front of the roll.

Flashing: The flashing material **must** be a TAMKO polyester reinforced modified asphalt flashing material.

U.L. Requirements:

Contact TAMKO for information on U.L. systems requirements.

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sions during roofing have been classified by IARC as a “probable human carcinogen”. Oxidized asphalt also contains Polycyclic Aromatic Hydrocarbons some of which have been classified by IARC as known or probable human carcinogens. The physical nature of the product(s) in this specification may help limit any inhalation or dermal hazard during application and/or removal. However, physical forces such as sawing, grinding or drilling during demolition work and heating or burning may increase the inhalation or dermal exposure hazard of the product(s) in this specification. Take precautions to prevent breathing and contact with skin.

Application of product(s) in this specification using “torch applied” or “hot mopped” applications may expose workers and others in the work area to oxidized asphalt and its emissions. The International Agency for Research on Cancer has classified occupational exposures to oxidized asphalt and its emissions during roofing as a “probable human carcinogen.” During installation and removal of the product(s) in this specification, including “torch applied” or “hot mopped” application, workers must take precautions to assure adequate ventilation and use effective personal protective equipment to prevent exposures to dusts, fumes, vapors and mists. It is the responsibility of the contractor and workers to protect themselves and others in the work area from exposure to oxidized asphalt and its emissions when applying the product(s) in this specification.

***Except in FL, TX, NM, AZ, CA**

For complete information on TAMKO’s recommendations and requirements, consult TAMKO’s web site at www.tamko.com
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