APPENDIX “A”

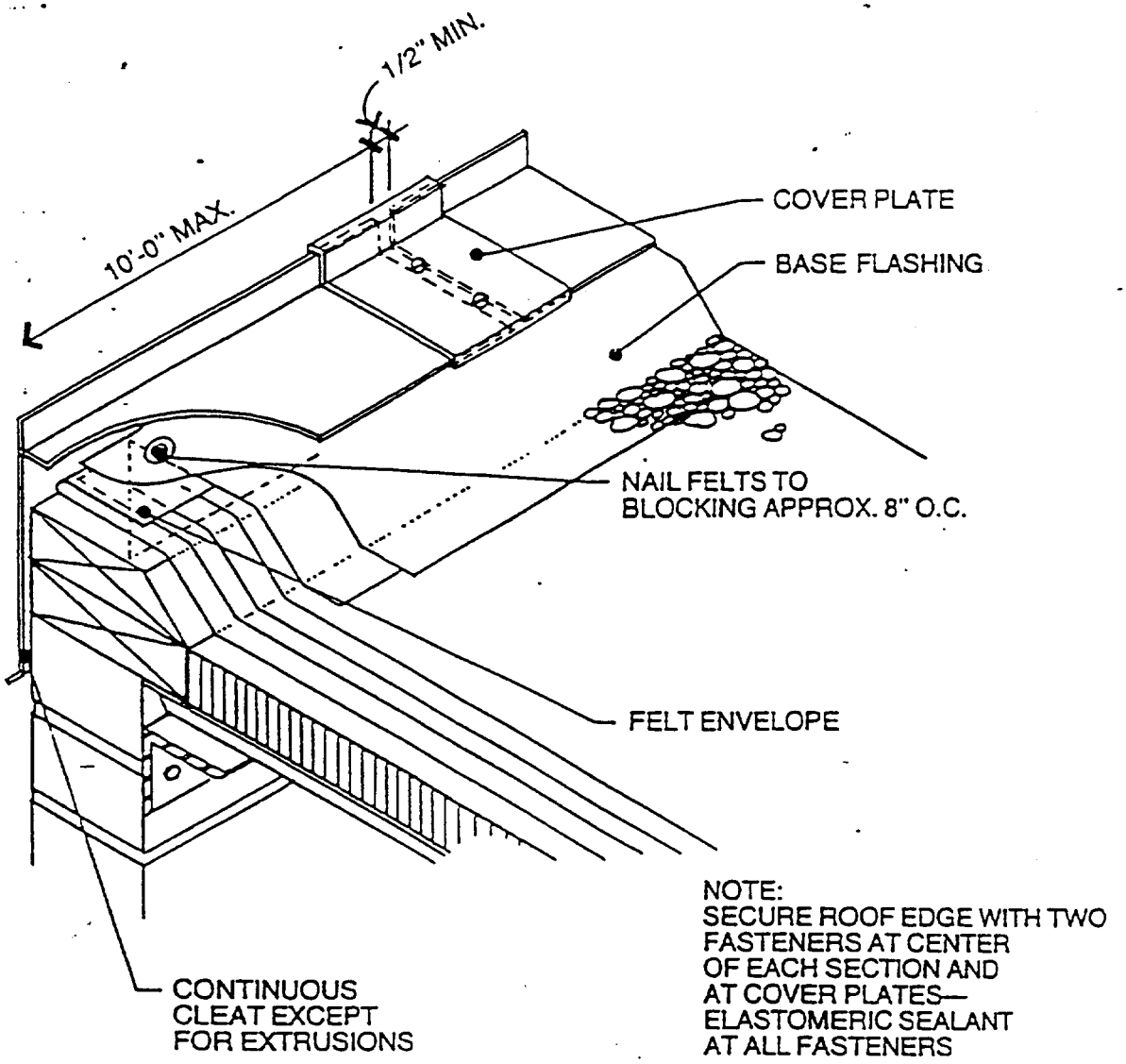
ROOF DETAILS

*** Please Note: Pages 30, 42, and 68 were deleted by the NRCA.**

Details for asphalt shingles, tile roofs and metal roofing shall be installed as recommended by the materials manufacturers.

ROOF DETAILS (INDEX)

HEAVY-METAL ROOF EDGE



NOTES:

THIS DETAIL SHOULD BE USED ONLY WHERE THE DECK IS SUPPORTED BY THE OUTSIDE WALL.

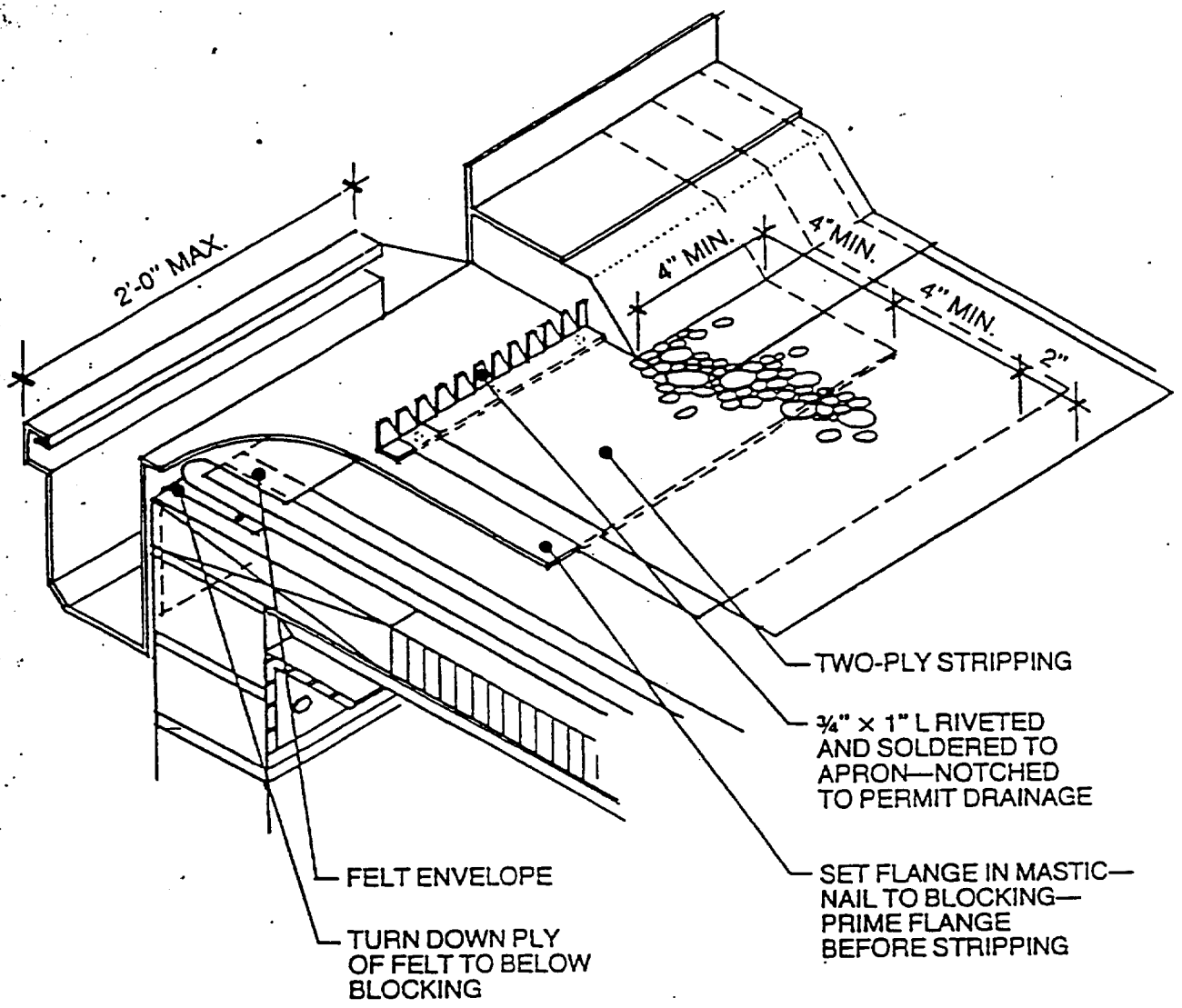
METALS OF 22-GAUGE STEEL, 0.050" ALUMINUM, 24-GAUGE STAINLESS STEEL OR HEAVIER ARE APPROPRIATE FOR THIS DETAIL. METALS OF THIS WEIGHT ARE VERY RIGID WHEN FORMED, AND FASTENING AT THE CENTER-LINE AND JOINT COVER WILL ALLOW EXPANSION AND CONTRACTION WITHOUT DAMAGING THE BASE FLASHING MATERIAL.

ATTACH NAILER TO MASONRY WALL. REFER TO FACTORY MUTUAL DATA SHEET 1-49.

WOOD-BLOCKING MAY BE SLOTTED FOR VENTING WHERE REQUIRED.

BUILT-UP ROOFING
NATIONAL ROOFING CONTRACTORS ASSOCIATION
1985 A

SCUPPER THROUGH ROOF EDGE



NOTES:

THIS DETAIL SHOULD BE USED ONLY WHERE THE DECK IS SUPPORTED BY THE OUTSIDE WALL.

THIS DETAIL CAN BE ADAPTED TO ROOF EDGES SHOWN IN DETAILS C AND D AND IS EASY TO INSTALL AFTER THE BUILDING IS COMPLETED. THIS DETAIL IS USED TO RELIEVE STANDING WATER IN AREAS ALONG THE ROOF EDGE. ALL ROOF SURFACES SHOULD BE SLOPED TO DRAIN.

ATTACH NAILER TO MASONRY WALL. REFER TO FACTORY MUTUAL DATA SHEET 1-49.

WOOD BLOCKING MAY BE SLOTTED FOR VENTING WHERE REQUIRED.

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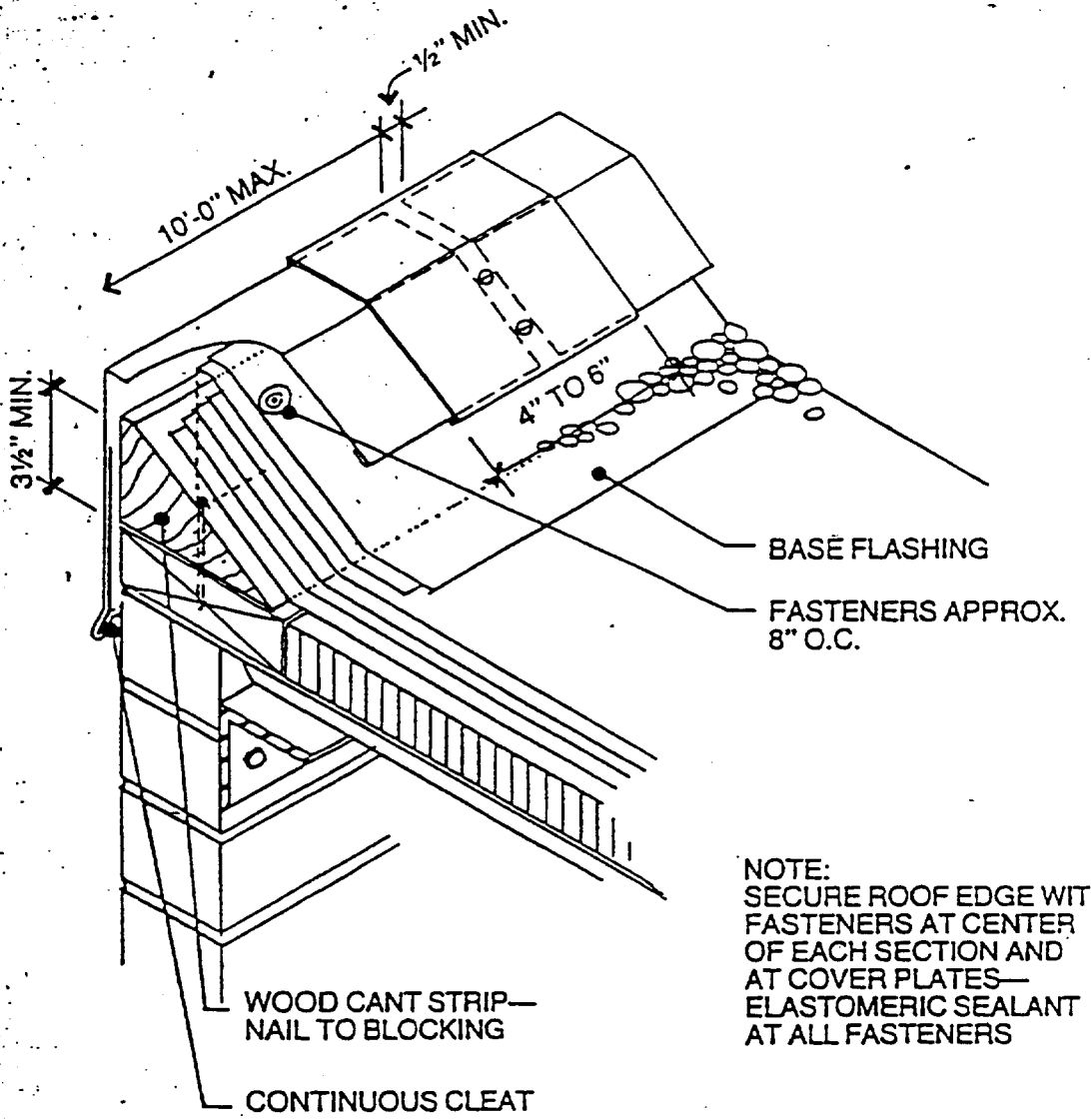
NATIONAL ROOFING CONTRACTORS ASSOCIATION

1985 B

LIGHT-METAL ROOF EDGE



NOTE:
SECURE ROOF EDGE WITH TWO FASTENERS AT CENTER OF EACH SECTION AND AT COVER PLATES— ELASTOMERIC SEALANT AT ALL FASTENERS

NOTES:

THIS DETAIL SHOULD BE USED ONLY WHERE THE DECK IS SUPPORTED BY THE OUTSIDE WALL.

THIS DETAIL IS SIMILAR TO DETAILS A AND D. THE CANT STRIP, PLACED AS SHOWN, WILL RESULT IN A HIGHER FASCIA LINE. THE NO. 15 FELT SHOWN BEHIND THE FASCIA PROVIDES PROTECTION FOR THE FLASHING EDGE AND SEALS THE SYSTEM UNTIL THE METAL WORK IS INSTALLED.

ATTACH NAILER TO MASONRY WALL. REFER TO FACTORY MUTUAL DATA SHEET 1-49.

WOOD BLOCKING MAY BE SLOTTED FOR VENTING WHERE REQUIRED.

BUILT-UP ROOFING
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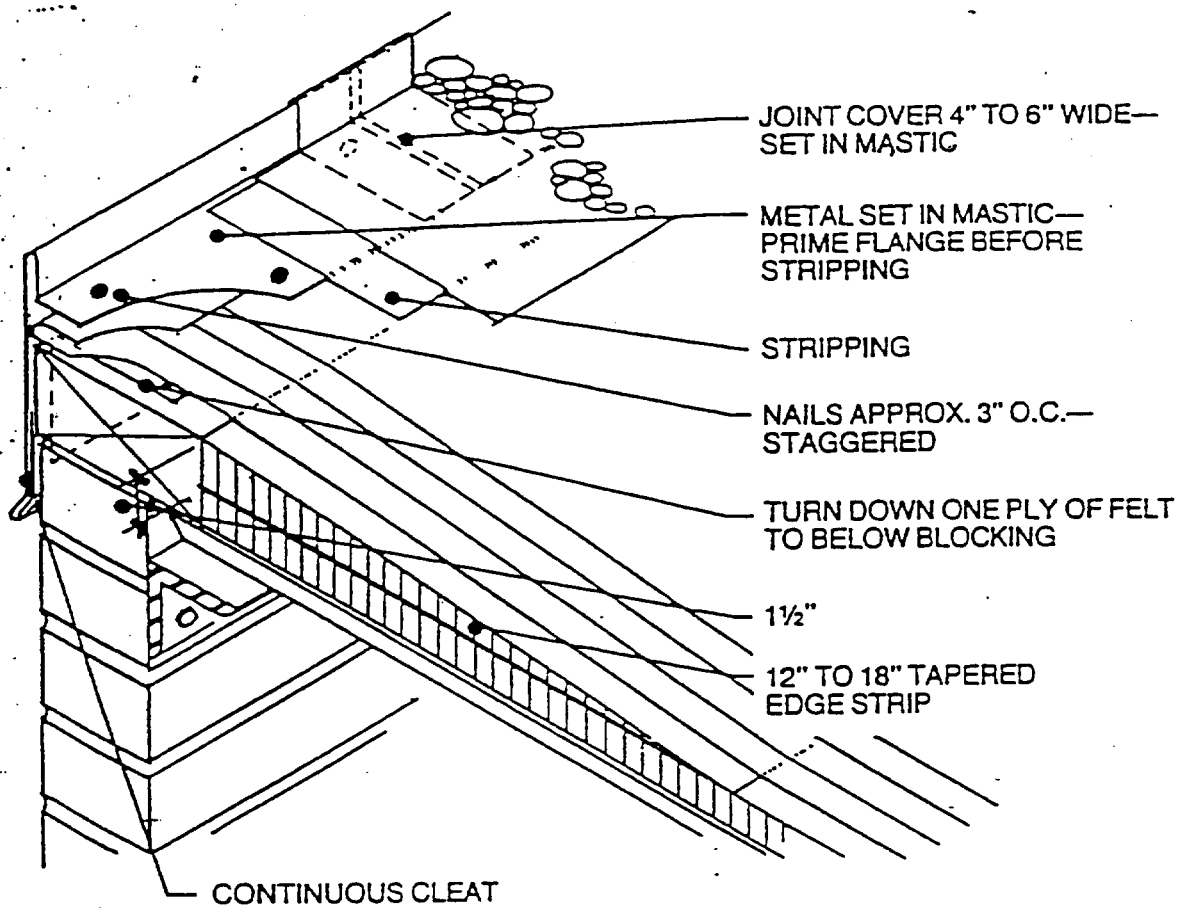
1985 C

LIGHT-METAL ROOF EDGE



NOTES:

ENVELOPE SHOWN FOR COAL-TAR PITCH AND LOW-SLOPE ASPHALT.

ATTACH NAILER TO MASONRY WALL. REFER TO FACTORY MUTUAL DATA SHEET 1-49.

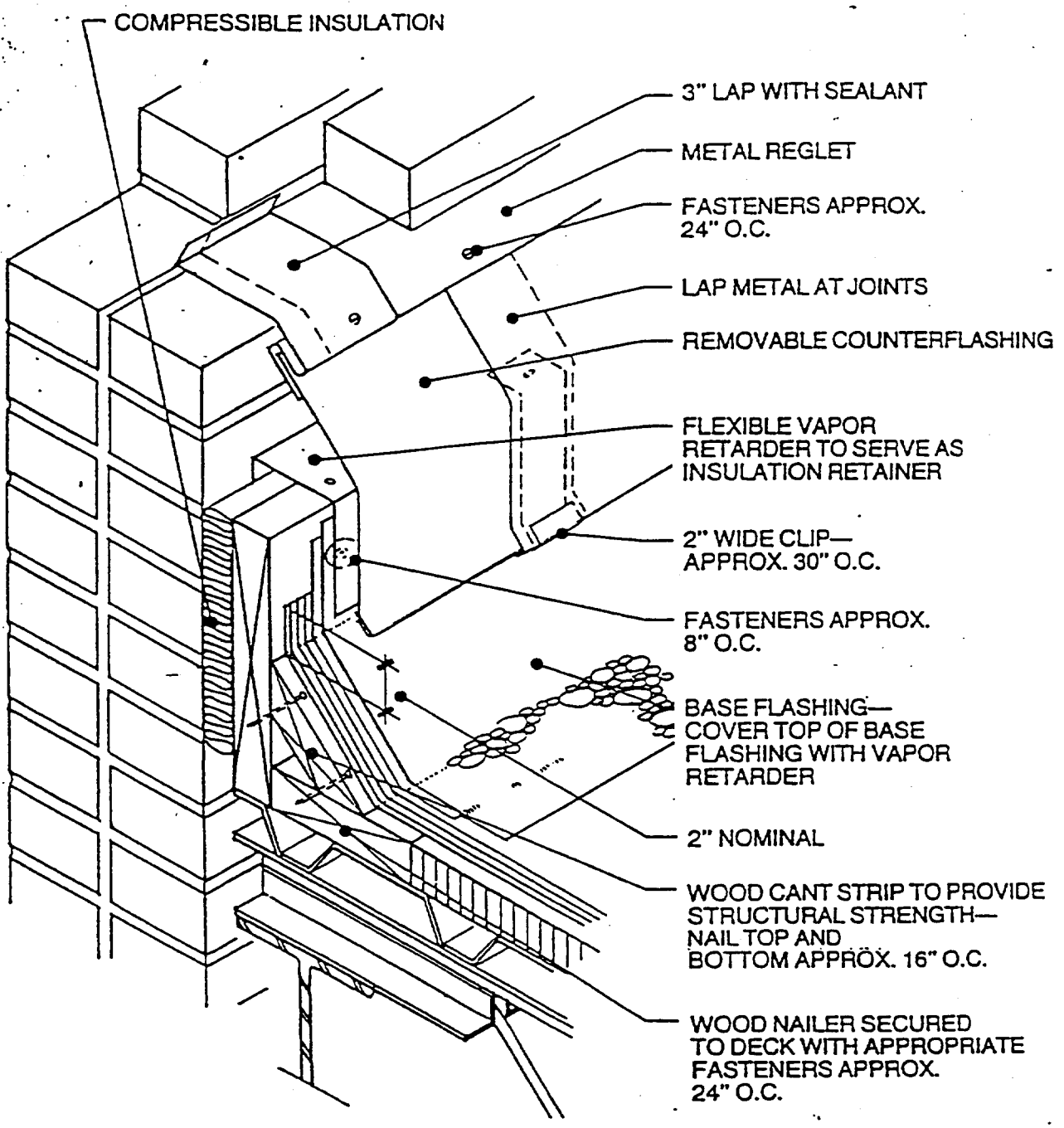
THIS DETAIL SHOULD BE USED ONLY WHERE DECK IS SUPPORTED BY THE OUTSIDE WALL.

THIS DETAIL SHOULD BE USED WITH LIGHT-GAUGE METALS, SUCH AS 16-OZ. COPPER, 24-GAUGE GALVANIZED METAL OR 0.040" ALUMINUM. A TAPERED EDGE STRIP IS USED TO RAISE THE GRAVEL STOP. FREQUENT NAILING IS NECESSARY TO CONTROL THERMAL MOVEMENT.

WOOD BLOCKING MAY BE SLOTTED FOR VENTING WHERE REQUIRED.

BUILT-UP ROOFING
NATIONAL ROOFING CONTRACTORS ASSOCIATION
1985 D

BASE FLASHING FOR NON-WALL-SUPPORTED DECK



NOTES:

THIS DETAIL ALLOWS WALL AND DECK TO MOVE INDEPENDENTLY.

THIS DETAIL SHOULD BE USED WHERE THERE IS ANY POSSIBILITY THAT DIFFERENTIAL MOVEMENT WILL OCCUR BETWEEN THE DECK AND A VERTICAL SURFACE, SUCH AS AT A PENTHOUSE WALL. THE VERTICAL WOOD MEMBER SHOULD BE FASTENED TO THE DECK ONLY. THIS IS ONE SATISFACTORY METHOD OF JOINING THE TWO PIECE FLASHING SYSTEM. OTHER METHODS MAY BE USED.

BUILT-UP ROOFING

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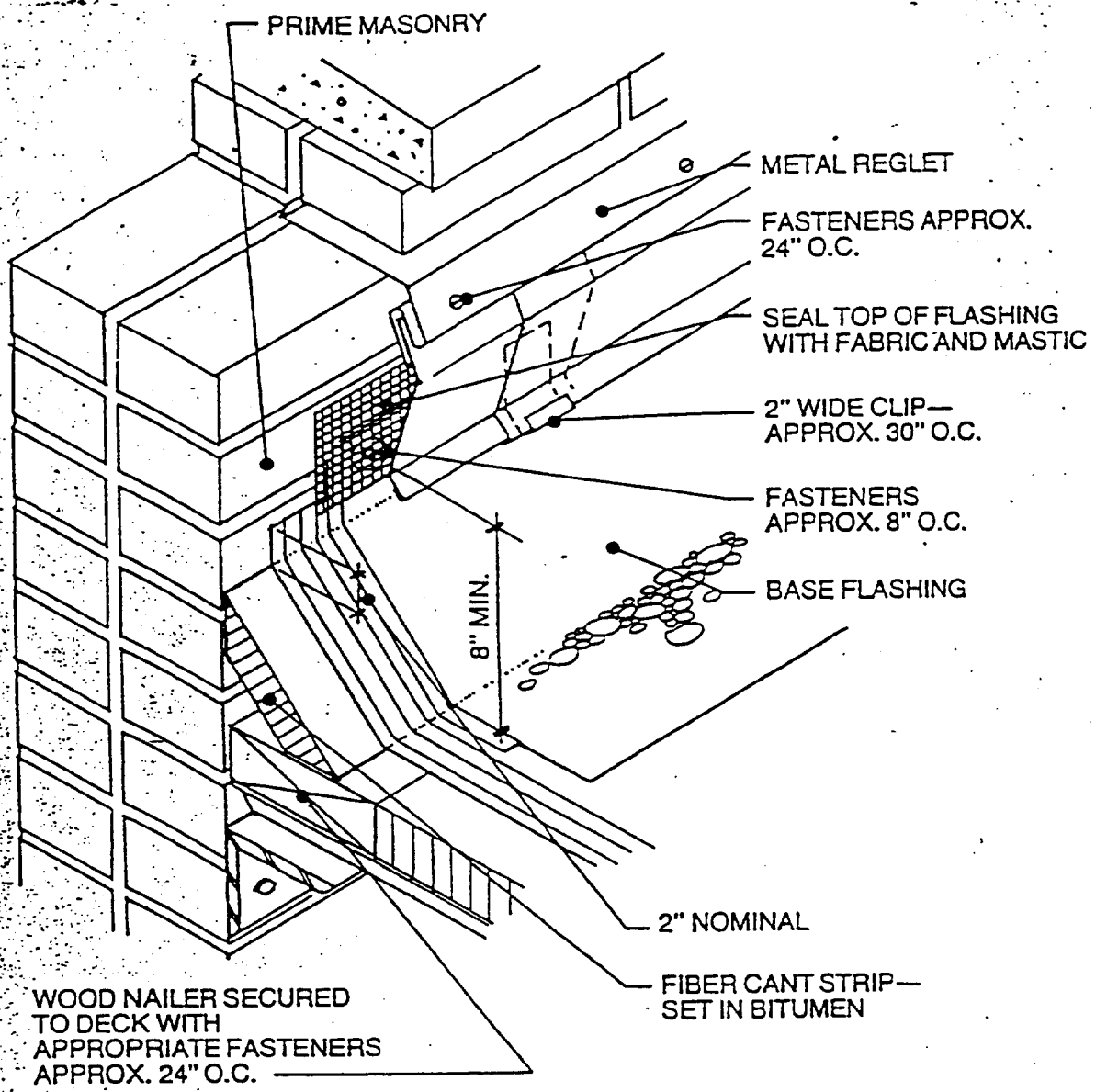
1985 E

BASE FLASHING FOR WALL-SUPPORTED DECK



NOTES:

THIS DETAIL SHOULD BE USED ONLY WHERE THE DECK IS SUPPORTED BY THE WALL.

THIS DETAIL IS SIMILAR TO DETAIL E. THE JOINTS IN THE TWO PIECES OF FLASHING SHOULD NOT BE SOLDERED. BREAKS IN SOLDERED JOINTS COULD CHANNEL WATER BEHIND THE FLASHING. CLIPS AT THE BOTTOM OF THE FLASHING ARE NOT NECESSARY ON FLASHINGS OF 6" OR LESS.

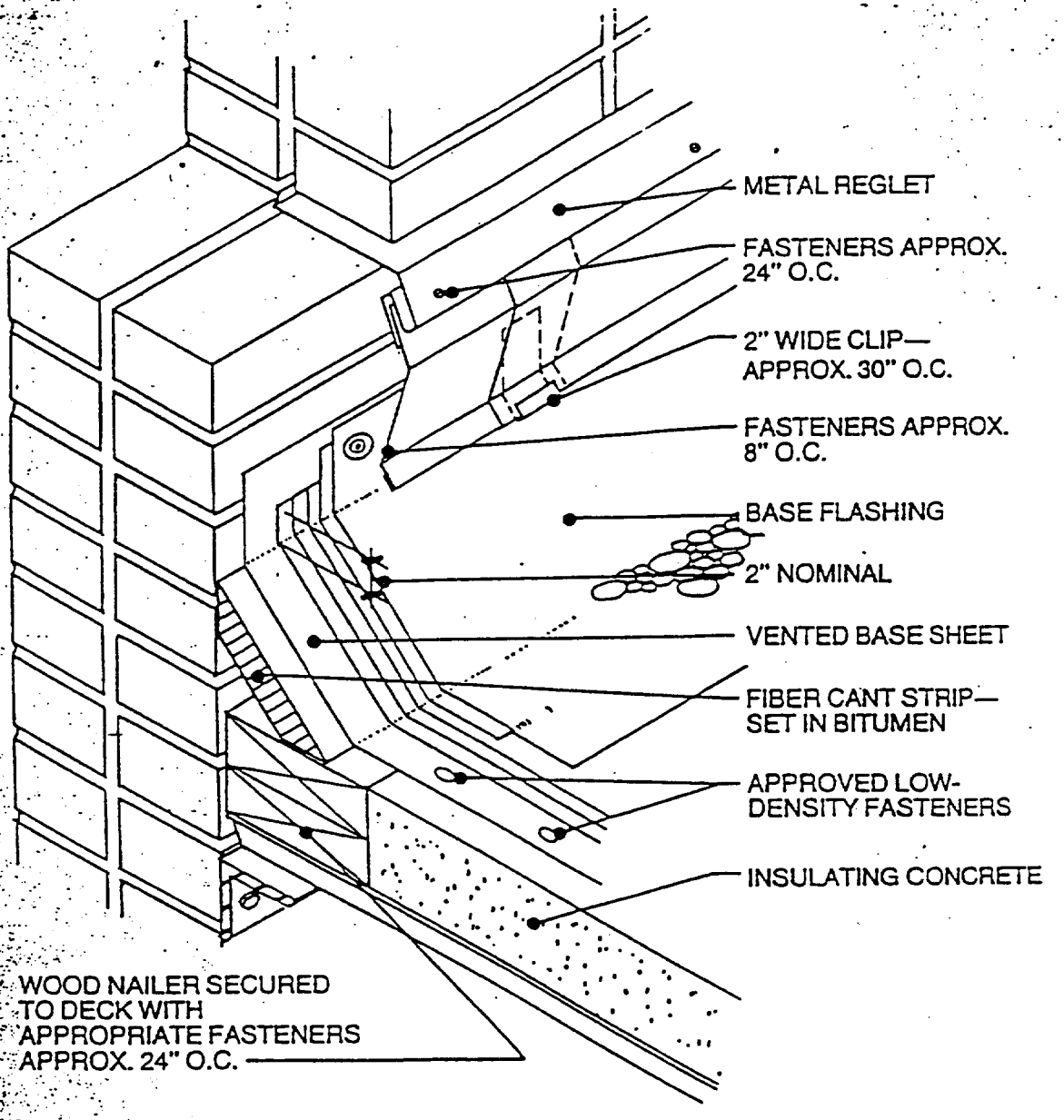
SEE DETAIL E FOR THE PREFERRED CONSTRUCTION.

BUILT-UP ROOFING

NATIONAL ROOFING CONTRACTORS ASSOCIATION

1985 F

BASE FLASHING FOR VENTED BASE SHEET



NOTES:

THIS DETAIL TO BE USED OVER WET-FILL DECKS OR WHEN REROOFING OVER EXISTING INSULATION.

ALL PLIES AND FLASHING ARE TO BE SOLIDLY MOPPED TO THE BASE SHEET. CARE SHOULD BE USED NOT TO SEAL THE BASE SHEET TO THE PARAPET.

SEE DETAIL E FOR THE PREFERRED CONSTRUCTION.

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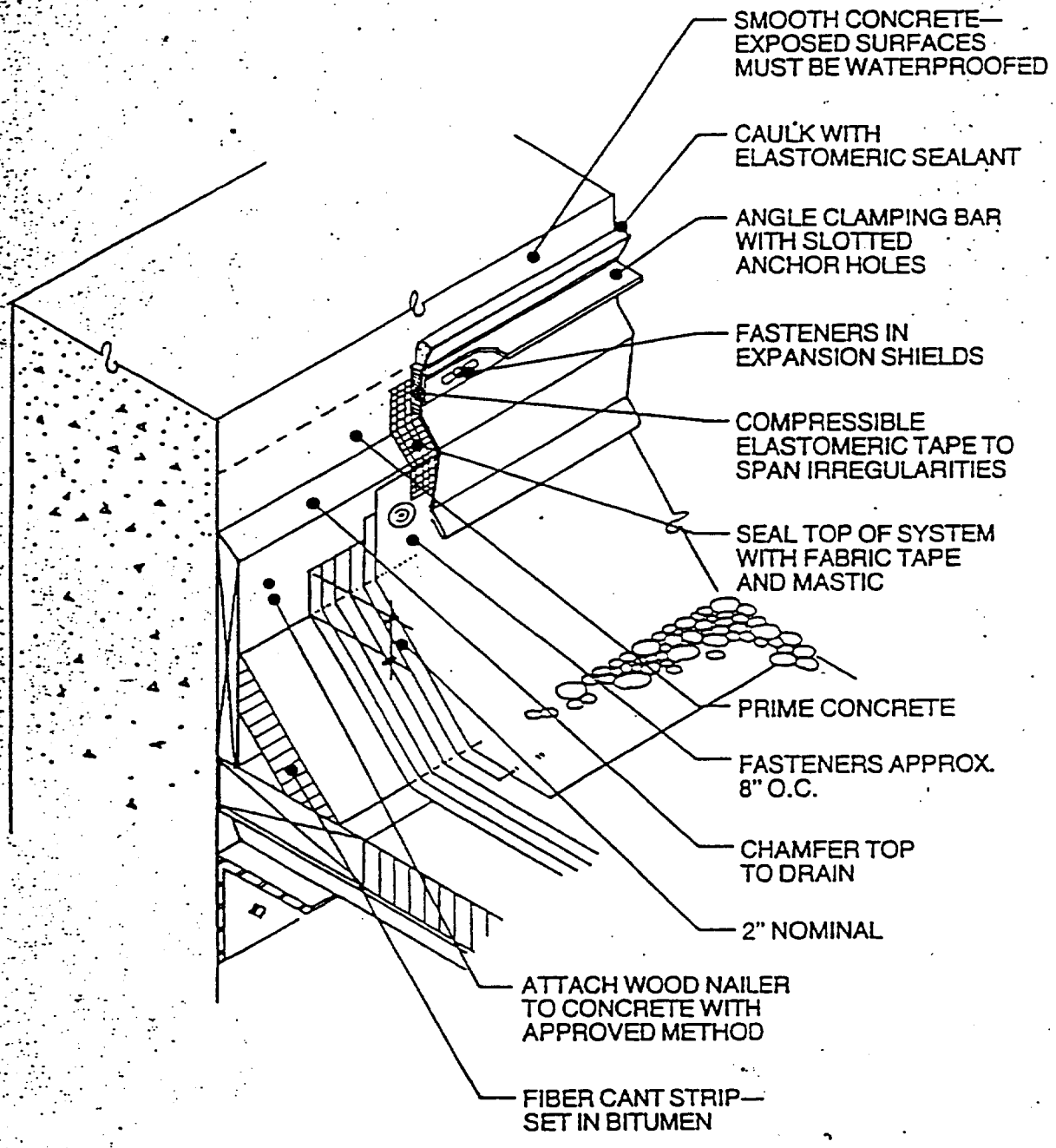
NATIONAL ROOFING CONTRACTORS ASSOCIATION

1985 G

COUNTERFLASHING FOR CONCRETE WALLS OR PARAPETS



NOTE:

WHERE DECK IS SUPPORTED BY AND FASTENED TO THE CONCRETE WALL, VERTICAL WOOD NAILER SHOULD BE SECURED TO THE WALL WITH SUITABLE FASTENERS.

BUILT-UP ROOFING

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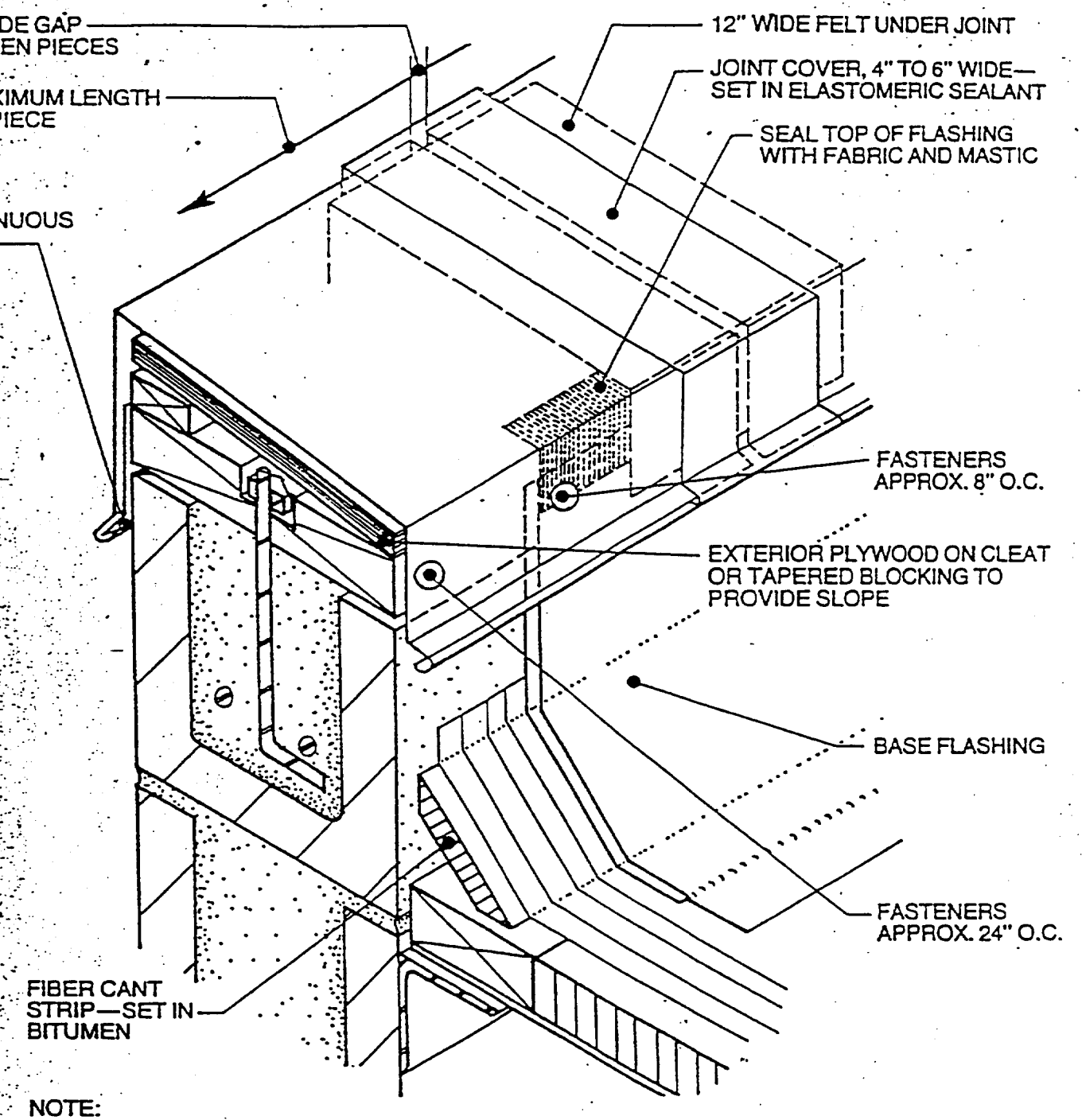
1985 H

LIGHT-METAL PARAPET CAP



NOTE:

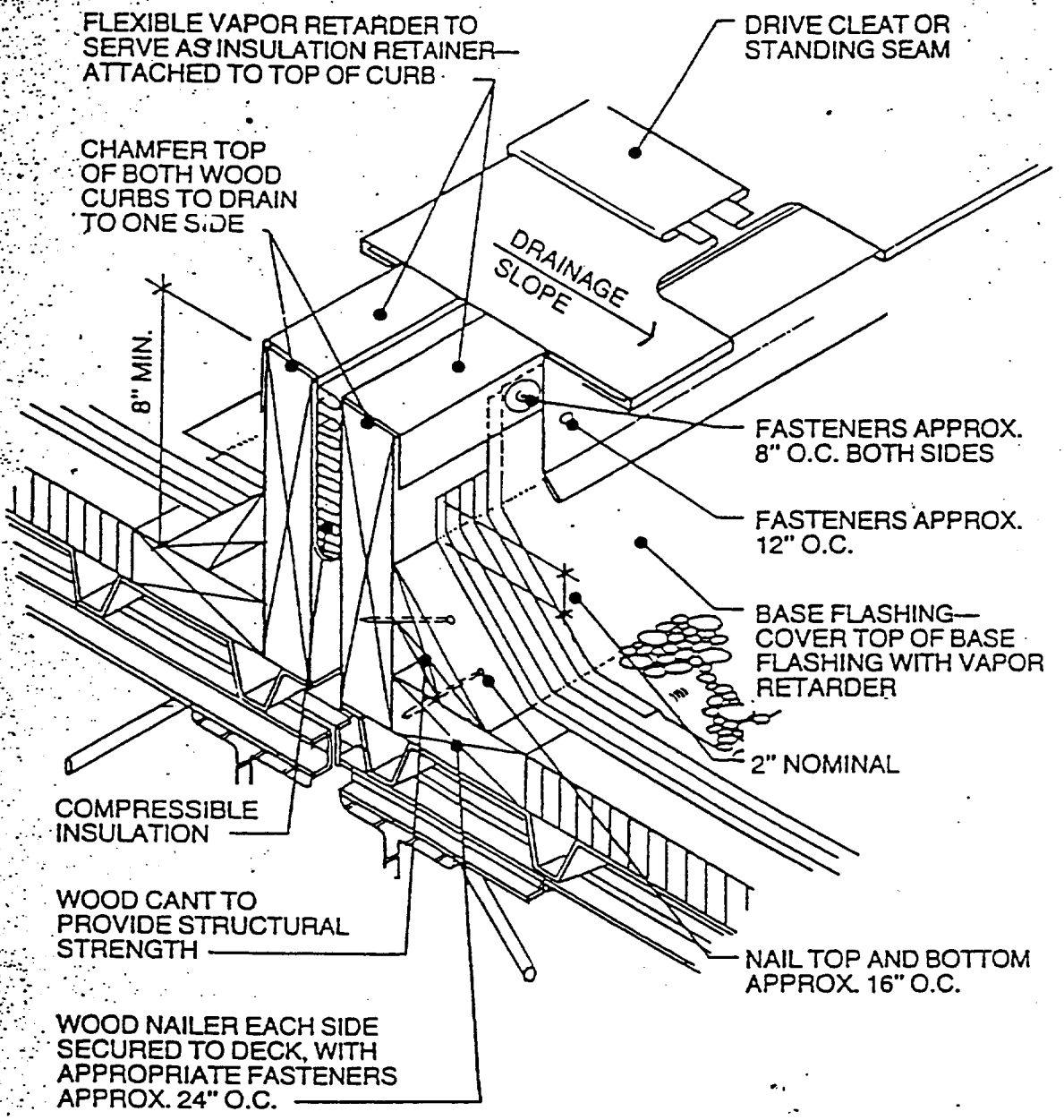
THIS DETAIL SHOULD BE USED ONLY WHEN THE DECK IS SUPPORTED BY THE WALL. AN EXPANSION JOINT DETAIL SIMILAR TO DETAIL E SHOULD BE USED FOR NON-WALL SUPPORTED DECK.

BUILT-UP ROOFING

NATIONAL ROOFING CONTRACTORS ASSOCIATION

1985 J

EXPANSION JOINT



NOTE:

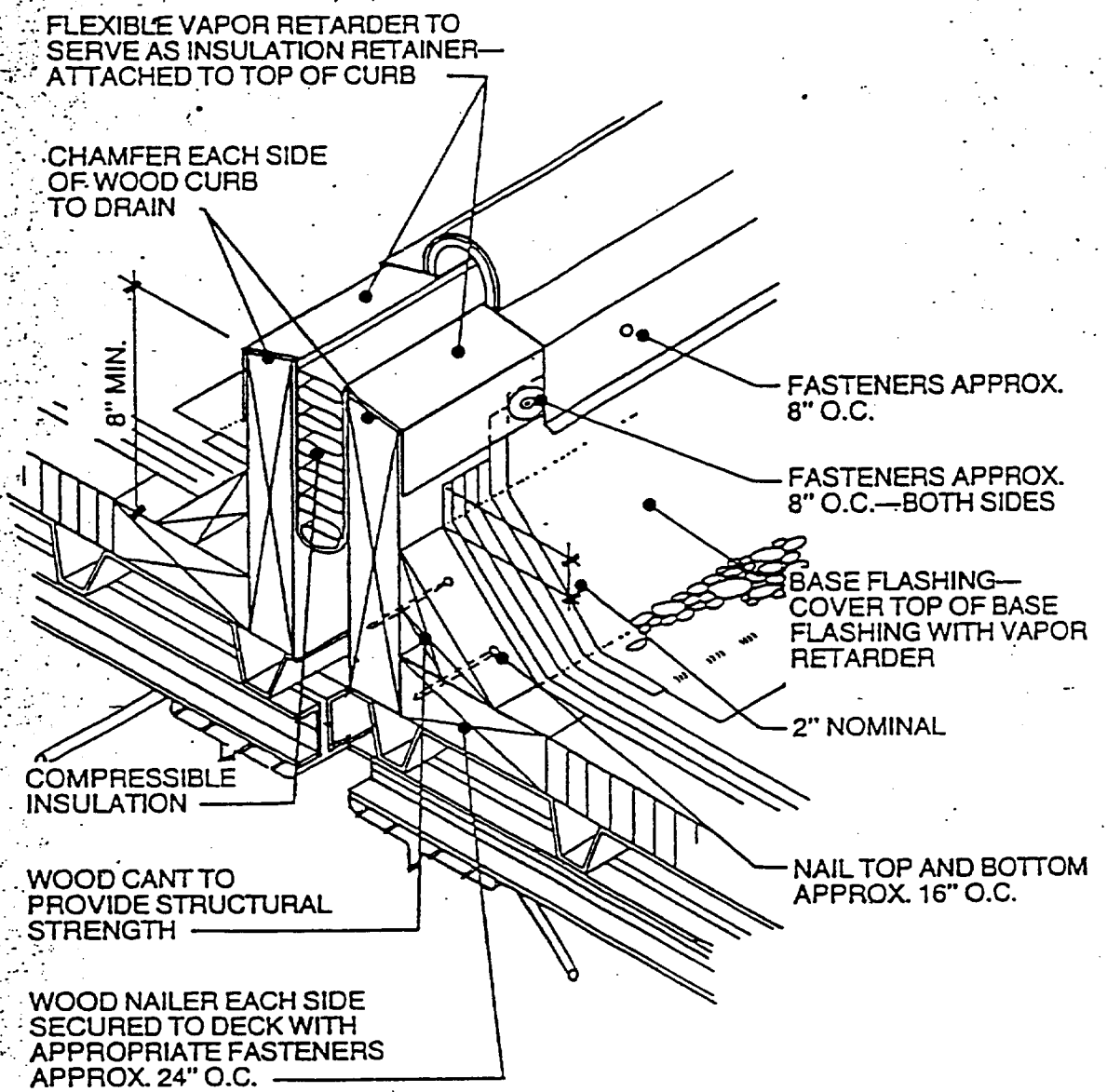
THIS DETAIL ALLOWS FOR BUILDING MOVEMENT IN BOTH DIRECTIONS. IT HAS PROVEN SUCCESSFUL WITH MANY CONTRACTORS FOR MANY YEARS.

BUILT-UP ROOFING

NATIONAL ROOFING CONTRACTORS ASSOCIATION

1985 K-1

EXPANSION JOINT



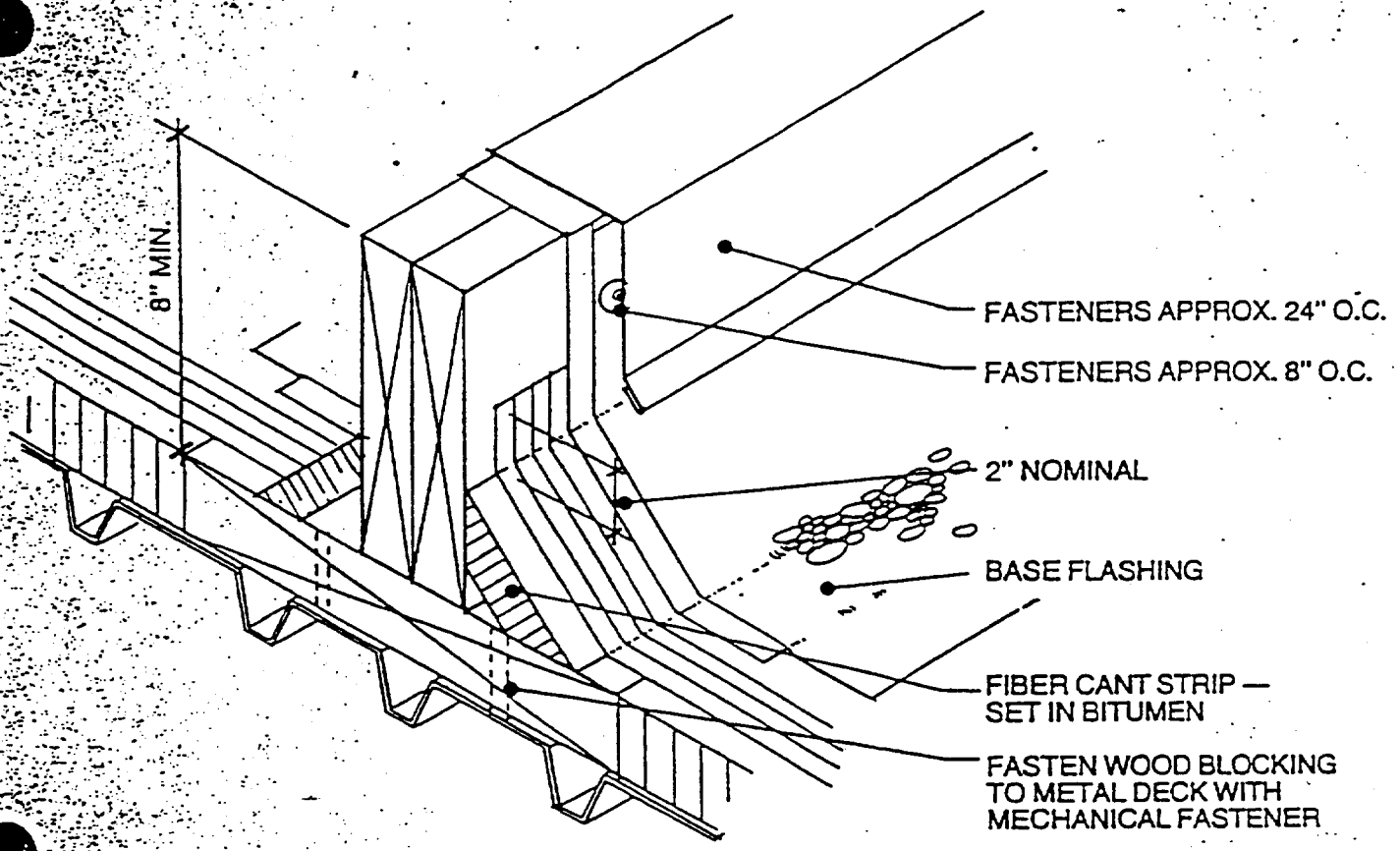
BUILT-UP ROOFING

NATIONAL ROOFING CONTRACTORS ASSOCIATION

1985 K-2

NATIONAL ROOFING CONTRACTORS ASSOCIATION

AREA DIVIDER



NOTE:

AN AREA DIVIDER IS DESIGNED SIMPLY AS A RAISED DOUBLE WOOD MEMBER ATTACHED TO A PROPERLY FLASHED WOOD BASE PLATE THAT IS ANCHORED TO THE ROOF DECK. AREA DIVIDERS SHOULD BE LOCATED BETWEEN THE ROOF'S EXPANSION JOINTS AT 100- to 200-FOOT INTERVALS, DEPENDING UPON CLIMATIC CONDITIONS AND AREA PRACTICES. THEY SHOULD NEVER RESTRICT THE FLOW OF WATER.

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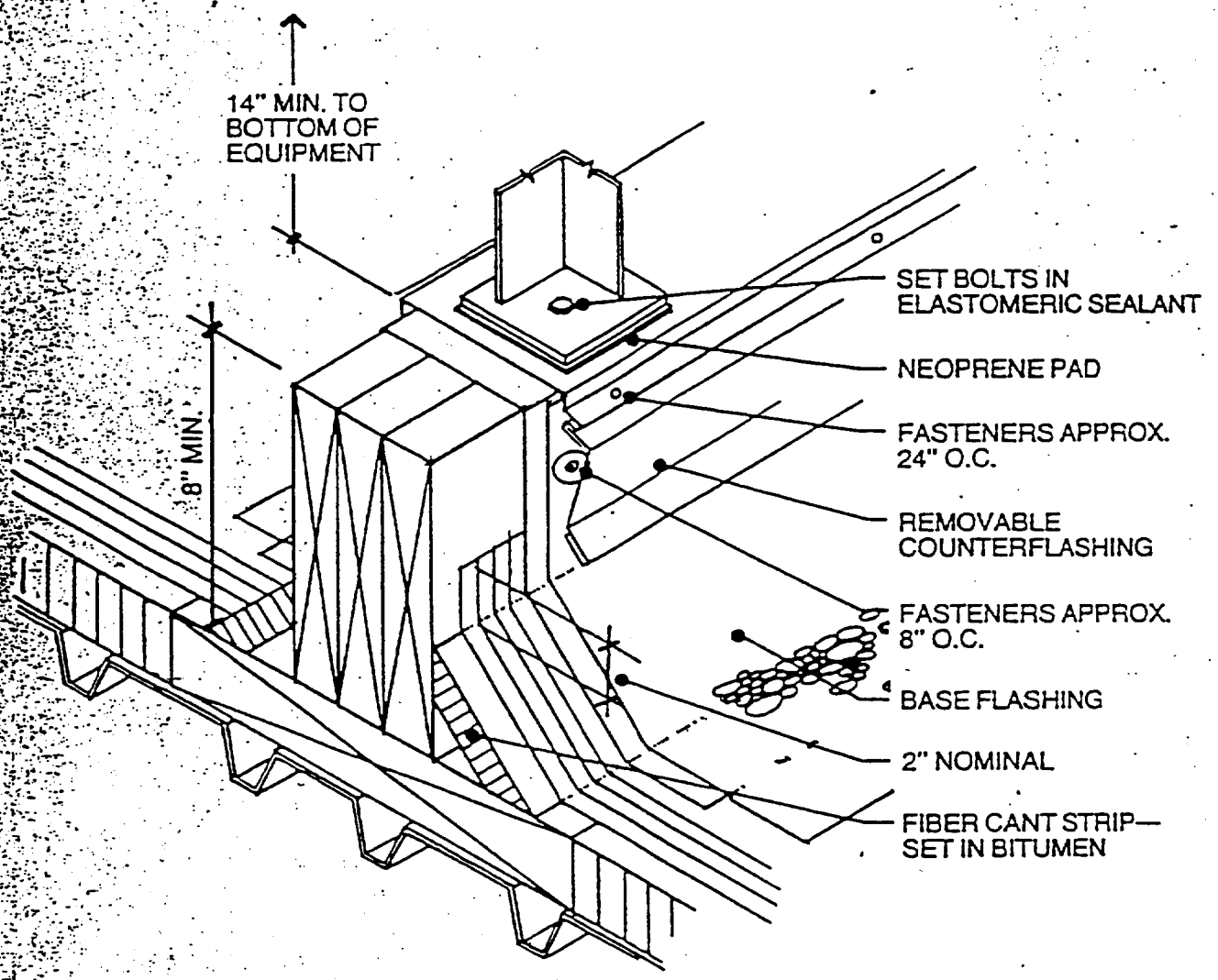
BUILT-UP ROOFING

NATIONAL ROOFING CONTRACTORS ASSOCIATION

1985 L-1

EQUIPMENT OR SIGN SUPPORT



NOTE:

THIS DETAIL ALLOWS FOR ROOF MAINTENANCE AROUND THE EQUIPMENT SIGN. THE CONTINUOUS SUPPORT IS PREFERRED IN LIGHTWEIGHT ROOF SYSTEMS BECAUSE THE EQUIPMENT WEIGHT CAN BE SPREAD OVER MORE SUPPORTING MEMBERS. WHERE HEAVY STRUCTURAL SYSTEMS ARE USED OR WHERE THE LOAD CAN BE CONCENTRATED OVER A COLUMN, DETAIL M IS PREFERRED. CLEARANCE MUST BE PROVIDED FOR REMOVAL AND REPLACEMENT OF ROOFING AND FLASHING BETWEEN PARALLEL SUPPORTS.

BUILT-UP ROOFING

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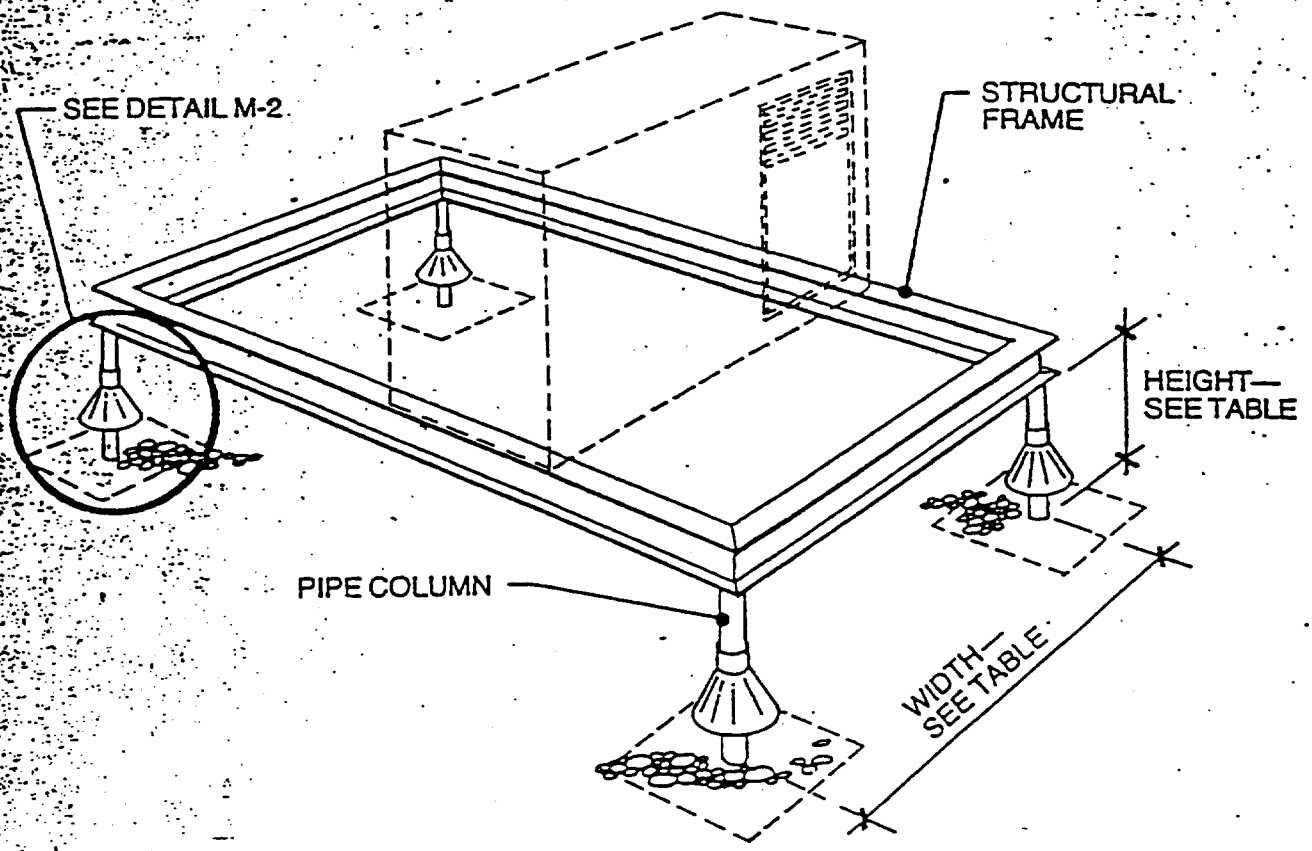
1985 L-2

MECHANICAL EQUIPMENT STAND



WIDTH OF EQUIPMENT	HEIGHT OF LEGS
UP TO 24"	14"
25" TO 36"	18"
37" TO 48"	24"
49" TO 60"	30"
61" AND WIDER	48"

NOTE:

THIS DETAIL IS PREFERABLE TO DETAIL L WHEN THE CONCENTRATED LOAD CAN BE LOCATED DIRECTLY OVER COLUMNS OR HEAVY GIRDERS IN THE STRUCTURE OF THE BUILDING. THIS DETAIL CAN BE ADAPTED FOR OTHER USES, SUCH AS SIGN SUPPORTS.

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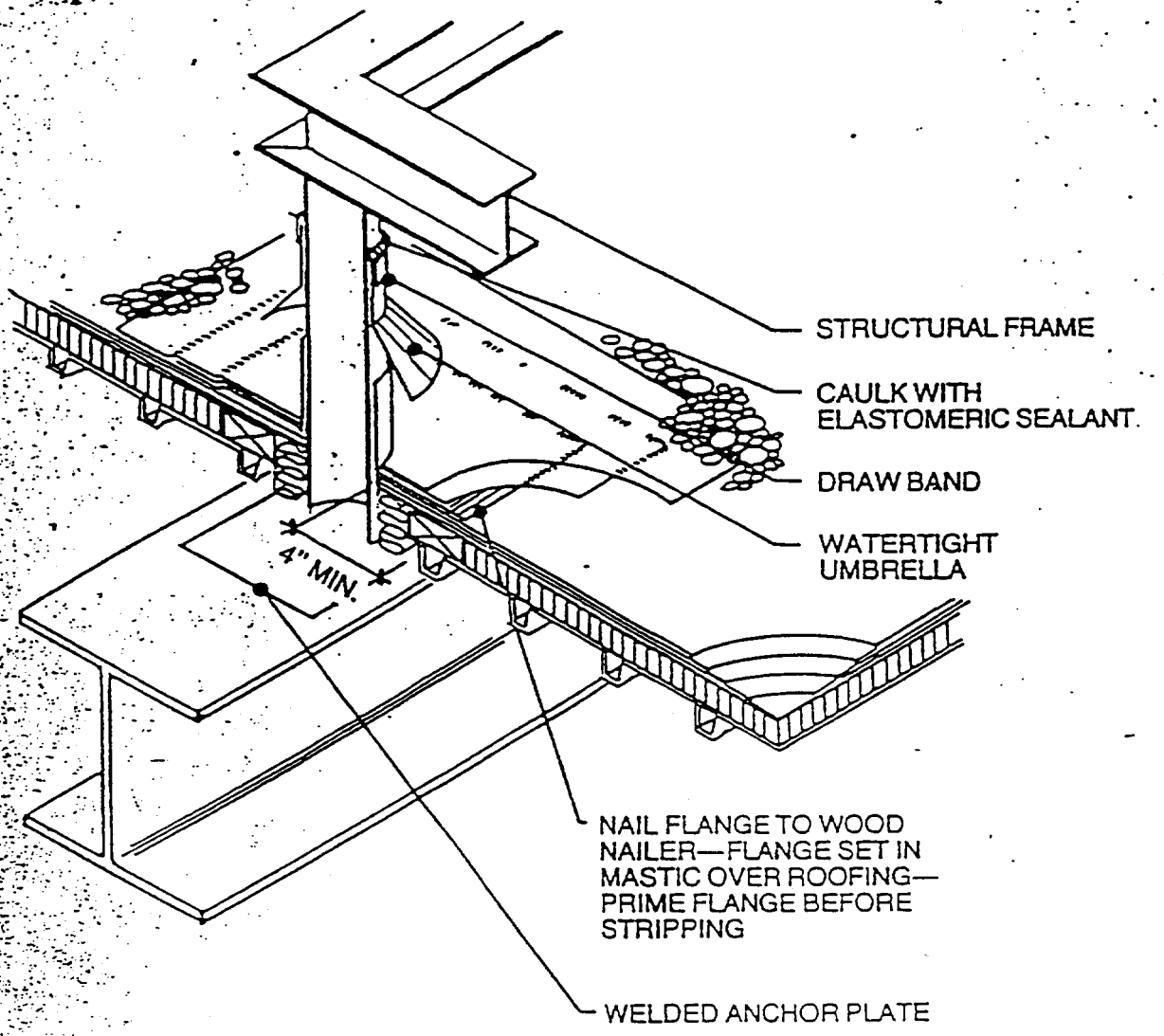
1985 M-1

INSULATED DECK STEEL FRAME



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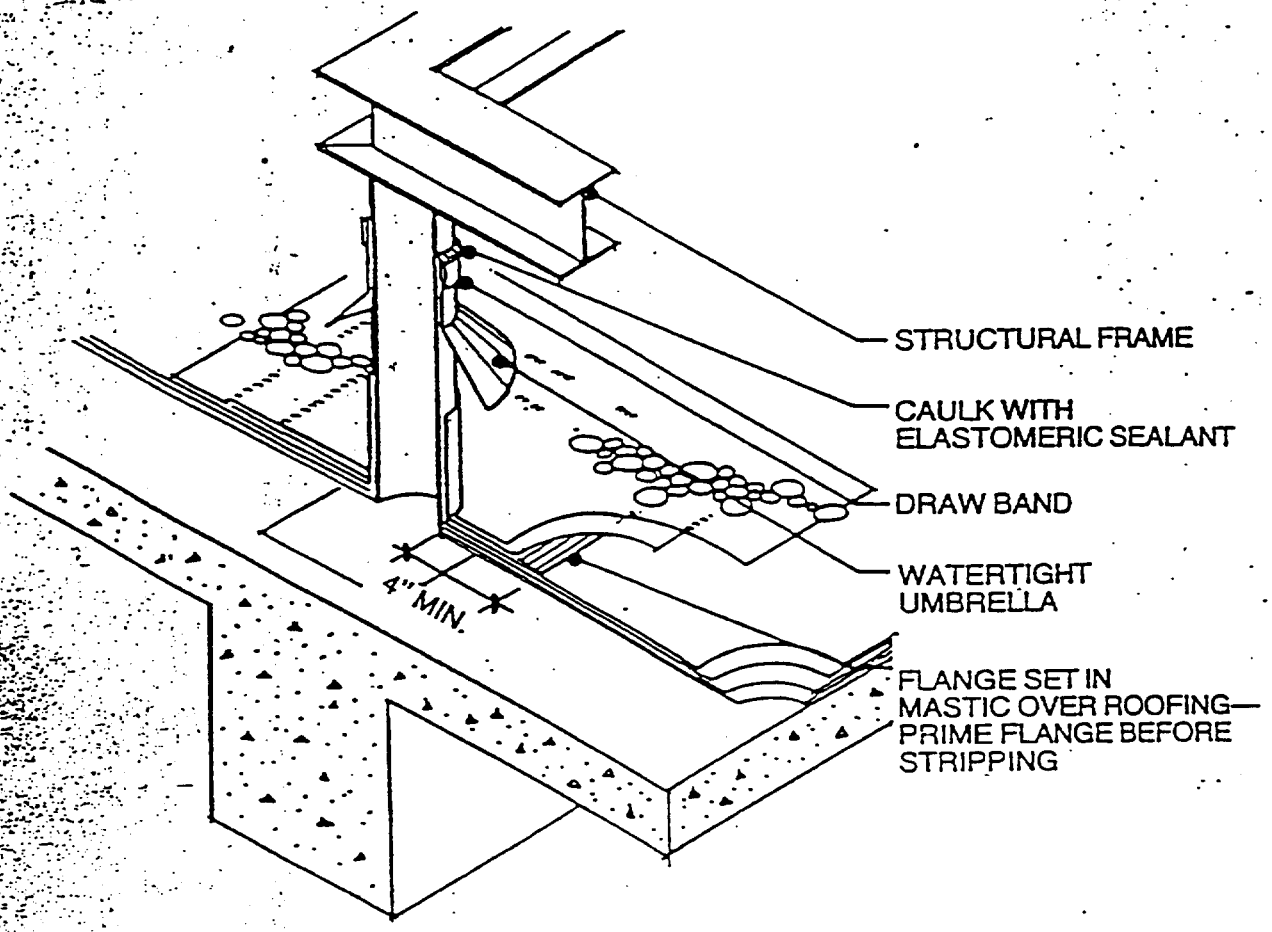
1985 M-2

CONCRETE DECK AND FRAME



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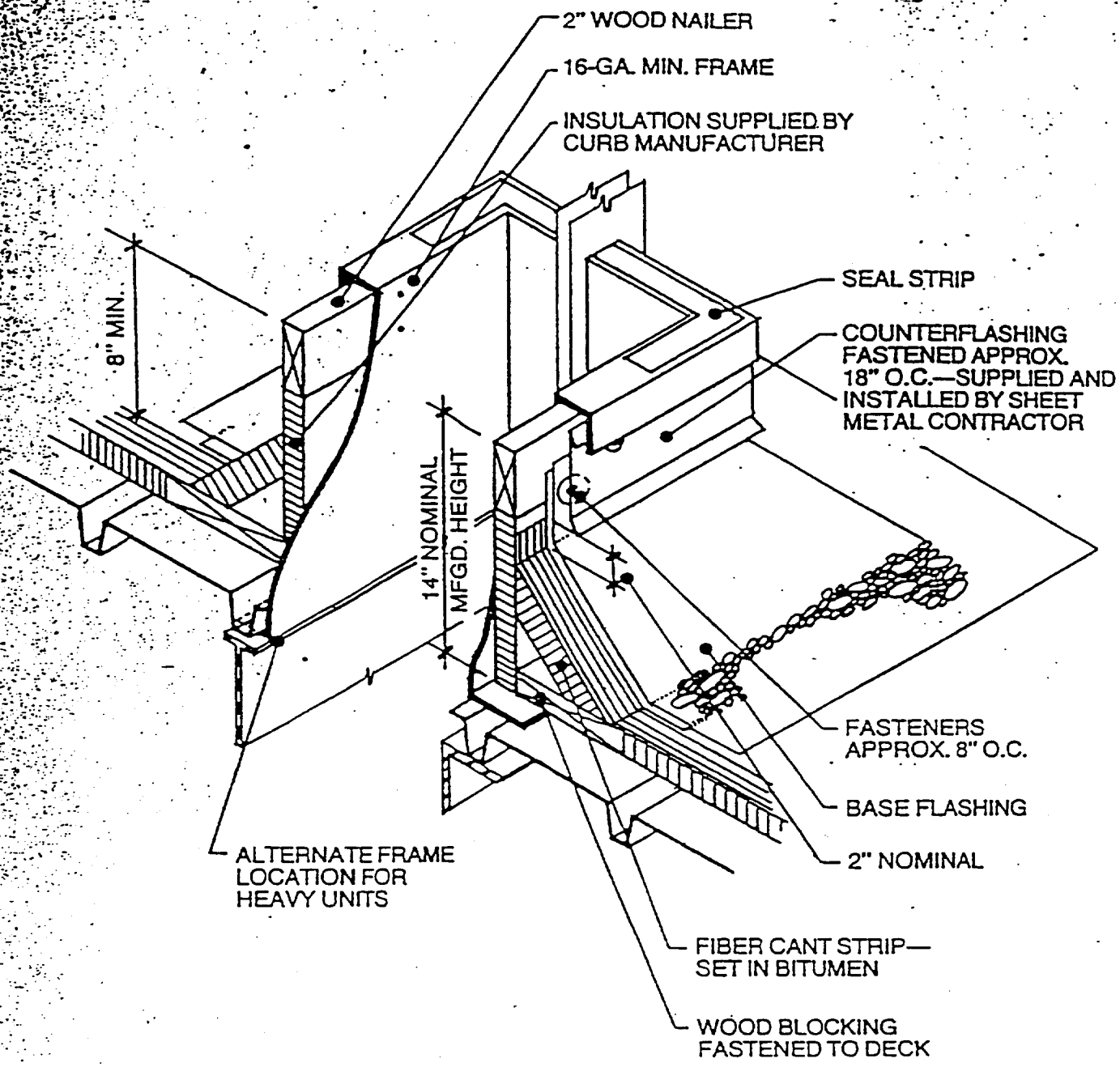
NATIONAL ROOFING CONTRACTORS ASSOCIATION
1985 M-3

CURB DETAIL FOR ROOFTOP AIR HANDLING UNITS



NOTE:

THE CURB, WOOD NAILER, INSULATION AND SEAL STRIP ARE TO BE SUPPLIED BY THE CURB MANUFACTURER. THE NOMINAL 14 INCH CURB HEIGHT IS EFFECTIVE AS OF JAN. 1, 1981.

BUILT-UP ROOFING
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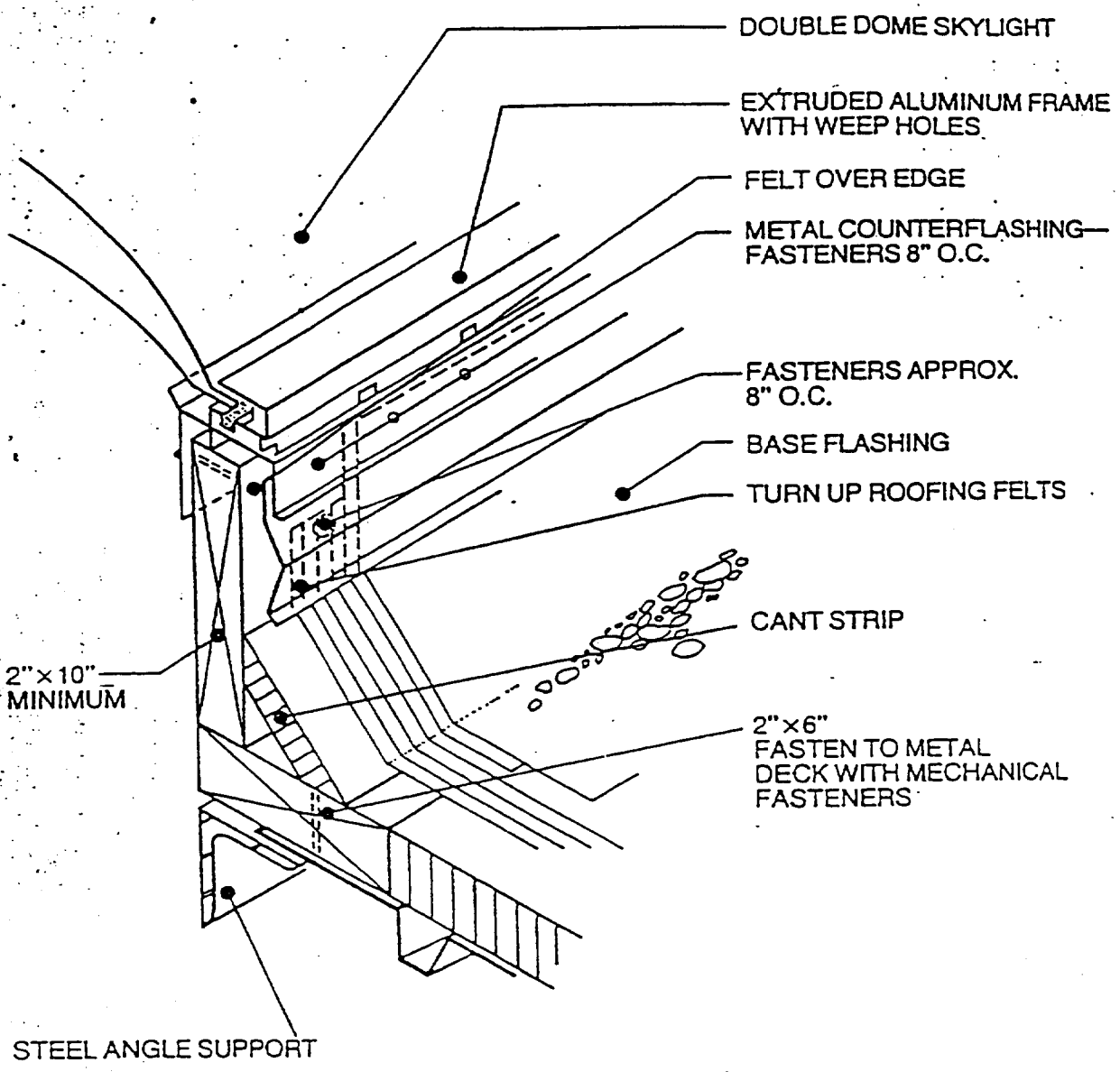
1985 N

SKYLIGHT, HATCH AND SMOKE VENT



BUILT-UP ROOFING

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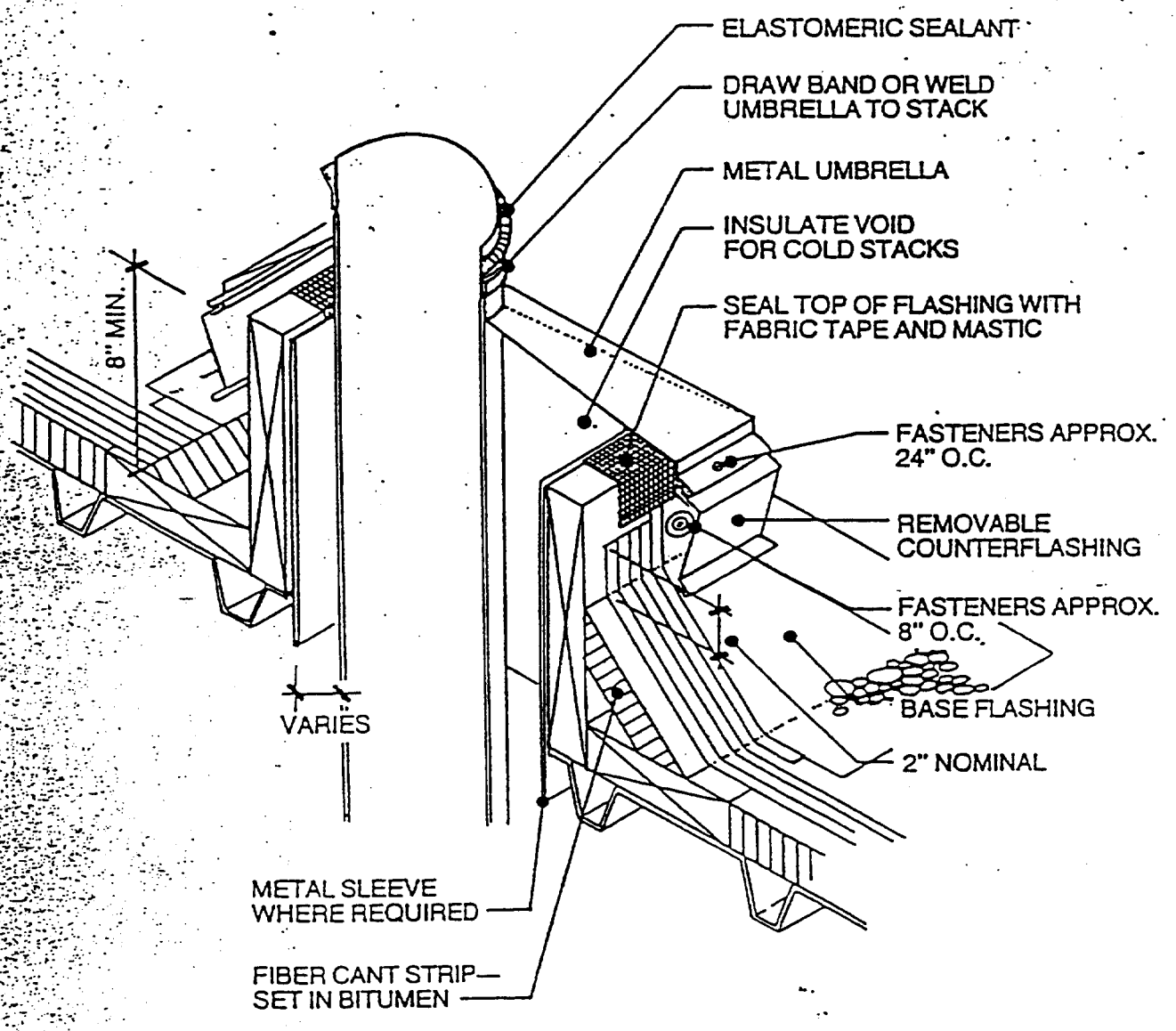
1985 O

STACK FLASHING



NOTE:

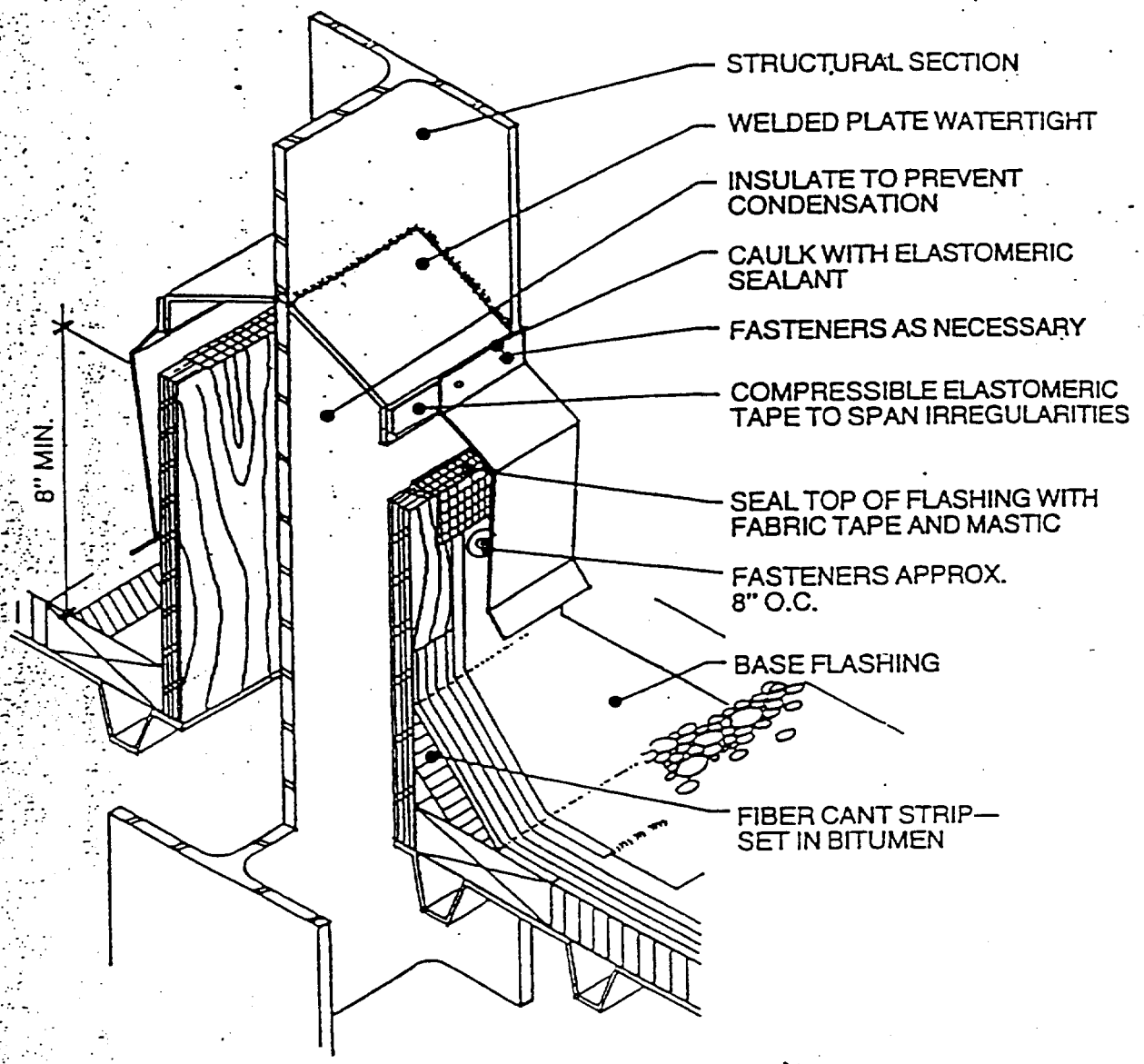
THIS DETAIL ALLOWS THE OPENING TO BE COMPLETED BEFORE THE STACK IS PLACED. THE METAL SLEEVE AND THE CLEARANCE NECESSARY WILL DEPEND ON THE TEMPERATURE OF THE MATERIAL HANDLED BY THE STACK.

BUILT-UP ROOFING

NATIONAL ROOFING CONTRACTORS ASSOCIATION

1985 P

FLASHING STRUCTURAL MEMBER THROUGH ROOF DECK



NOTE:

THIS DETAIL ILLUSTRATES ONE METHOD OF ELIMINATING PITCH POCKETS. THE CURBED SYSTEM ALLOWS FOR MOVEMENT IN THE STRUCTURAL MEMBER WITHOUT DISTURBING THE ROOFING SYSTEM.

BUILT-UP ROOFING

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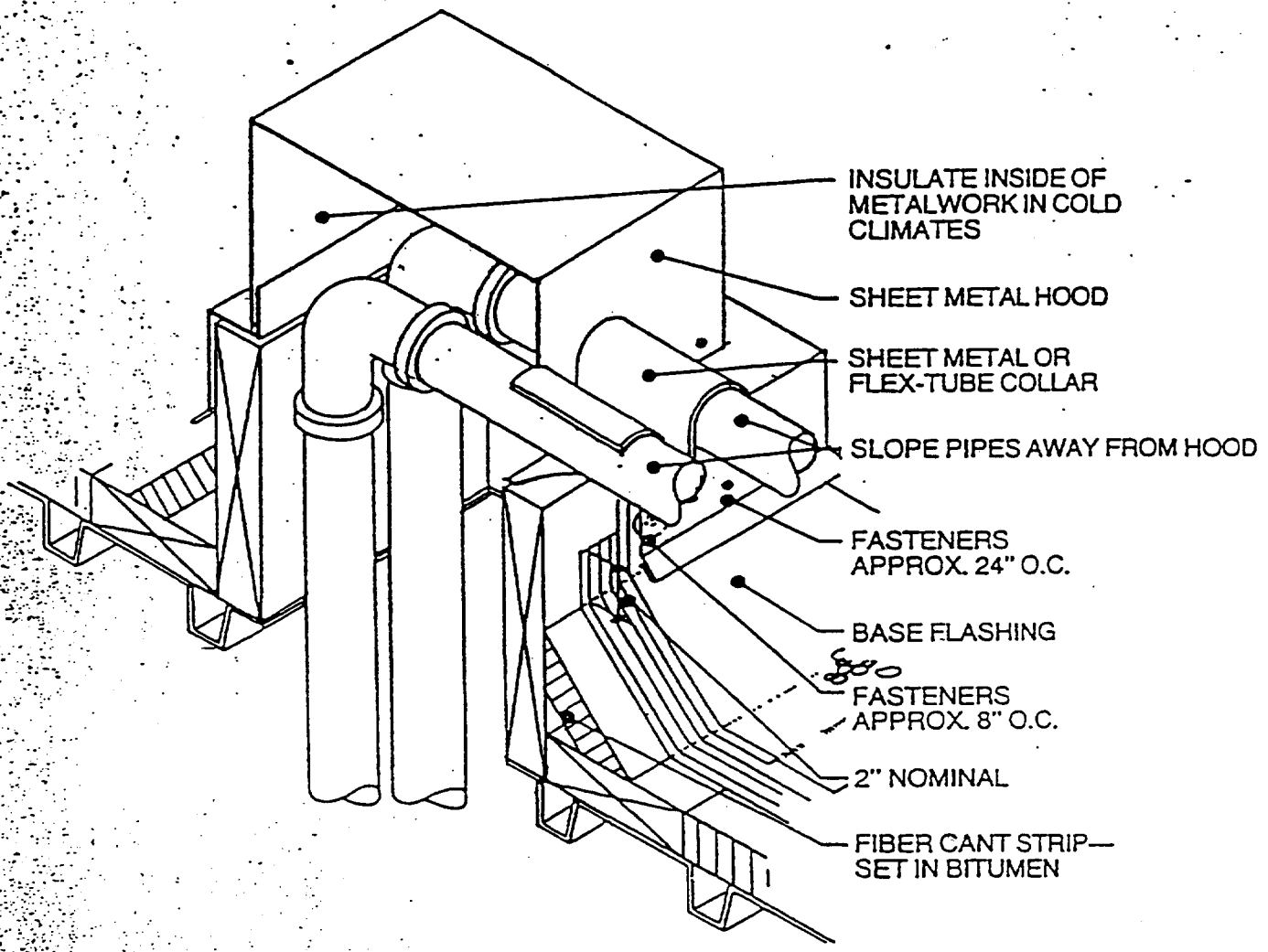
1985 Q

PIPING THROUGH ROOF DECK



NOTE:

THIS DETAIL ILLUSTRATES ANOTHER METHOD OF ELIMINATING PITCH POCKETS AND A SATISFACTORY METHOD OF GROUPING PIPING THAT MUST COME UP ABOVE THE ROOF SURFACE.

BUILT-UP ROOFING

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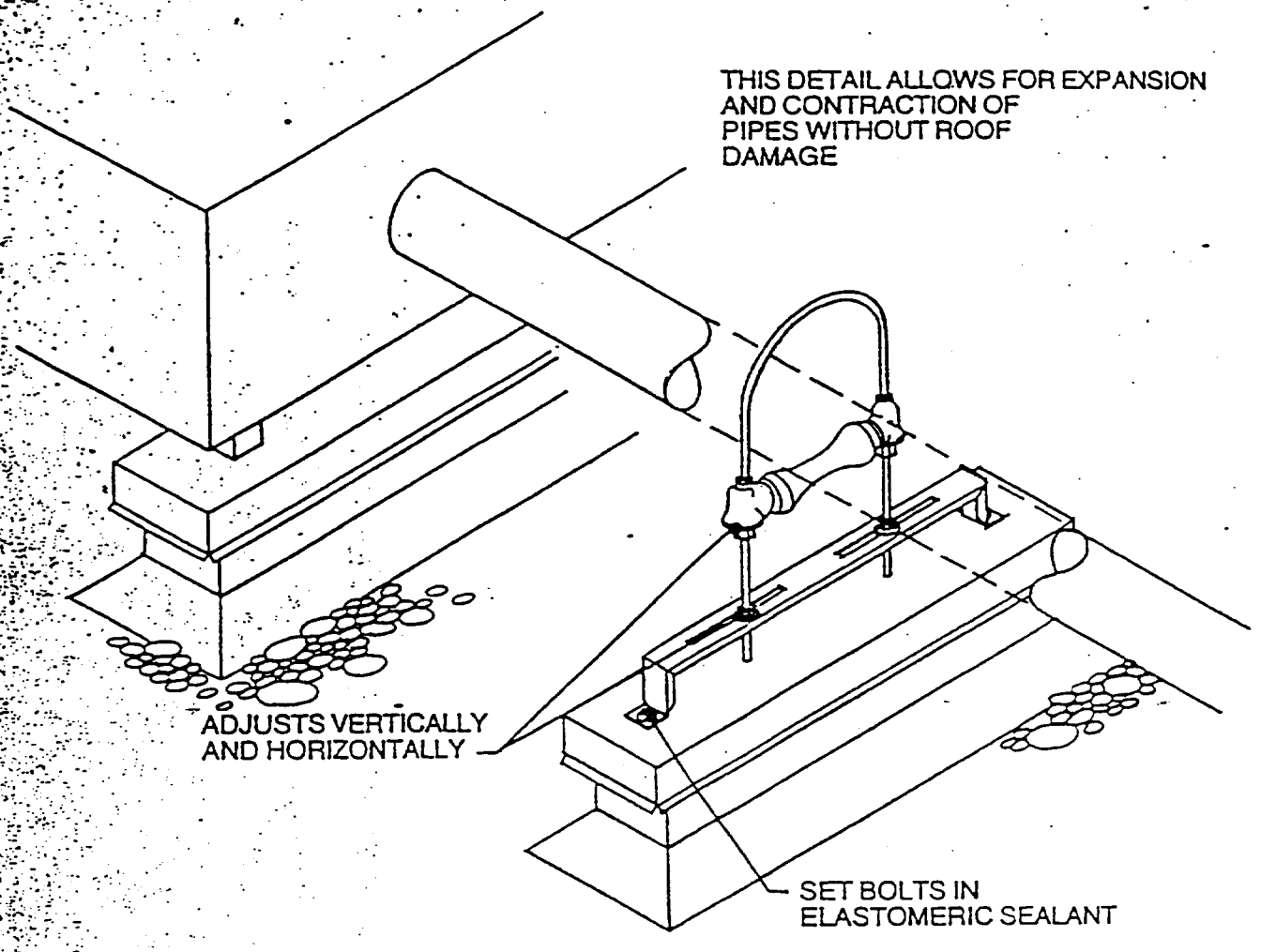
1985 R

PIPE ROLLER SUPPORT



NOTE:

NRCA REAFFIRMS ITS OPPOSITION TO PIPES AND CONDUITS BEING PLACED ON ROOFS. HOWEVER, WHERE THEY ARE NECESSARY, THIS TYPE OF PIPE ROLLER SUPPORT IS RECOMMENDED.

BUILT-UP ROOFING

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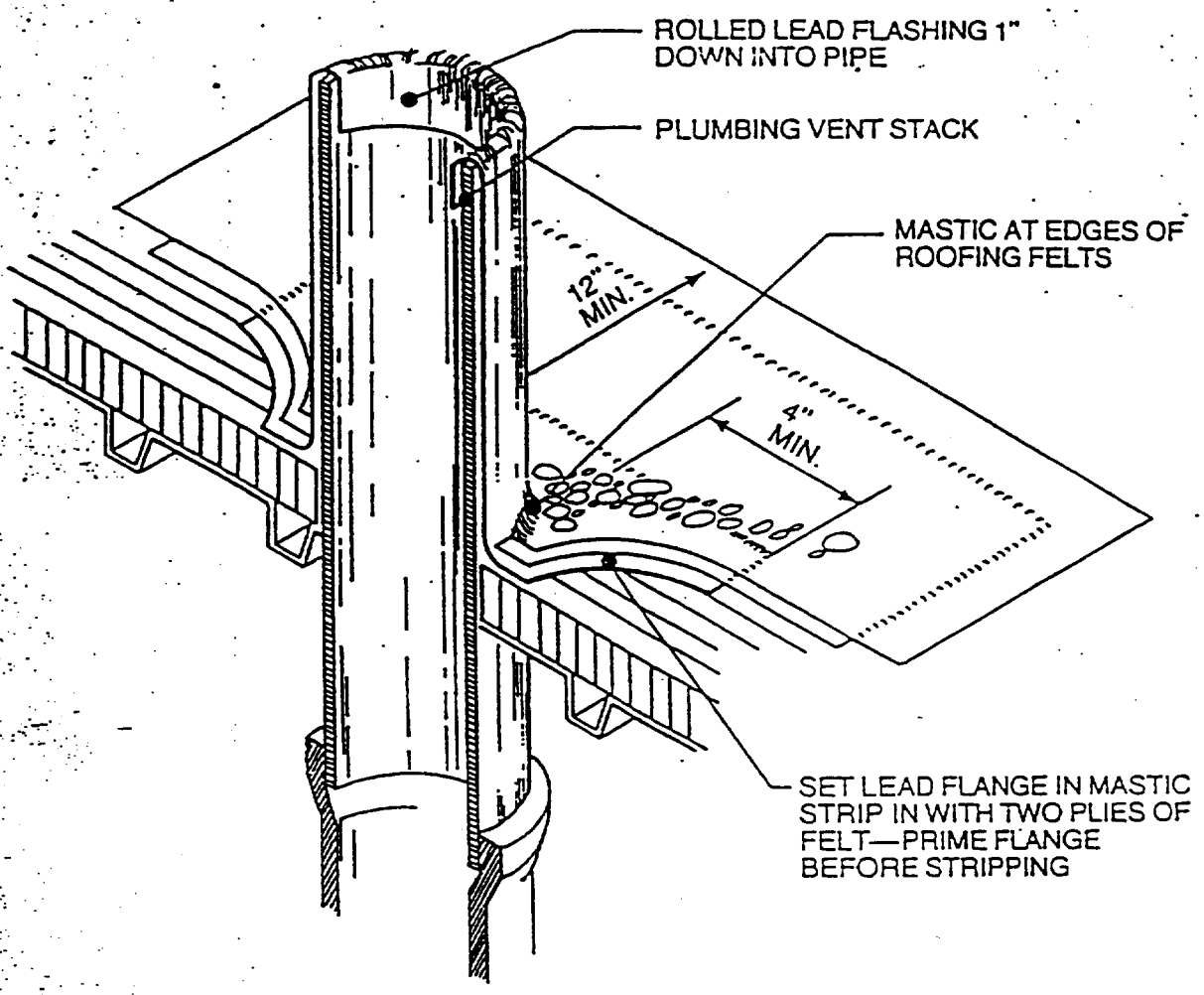
1985 S

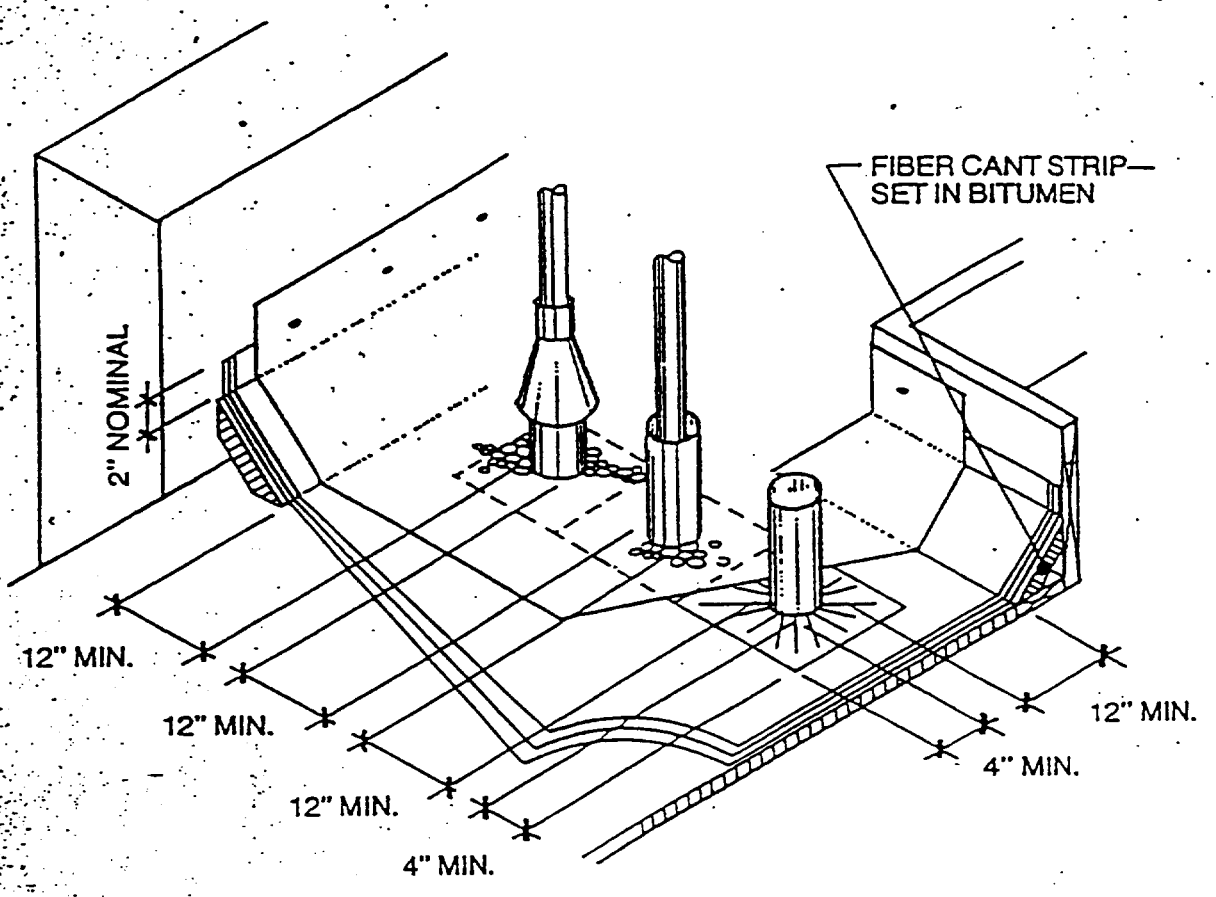
PLUMBING VENT FLASHING



NOTES:

1. SHEET LEAD MINIMUM OF 2½-LB PER SQUARE FOOT.
2. SEE DETAIL U FOR MINIMUM CLEARANCE FROM PIPES, WALLS AND CURBS.

CLEARANCES FOR MULTIPLE PIPES — BETWEEN PIPES AND FROM WALLS AND CURBS



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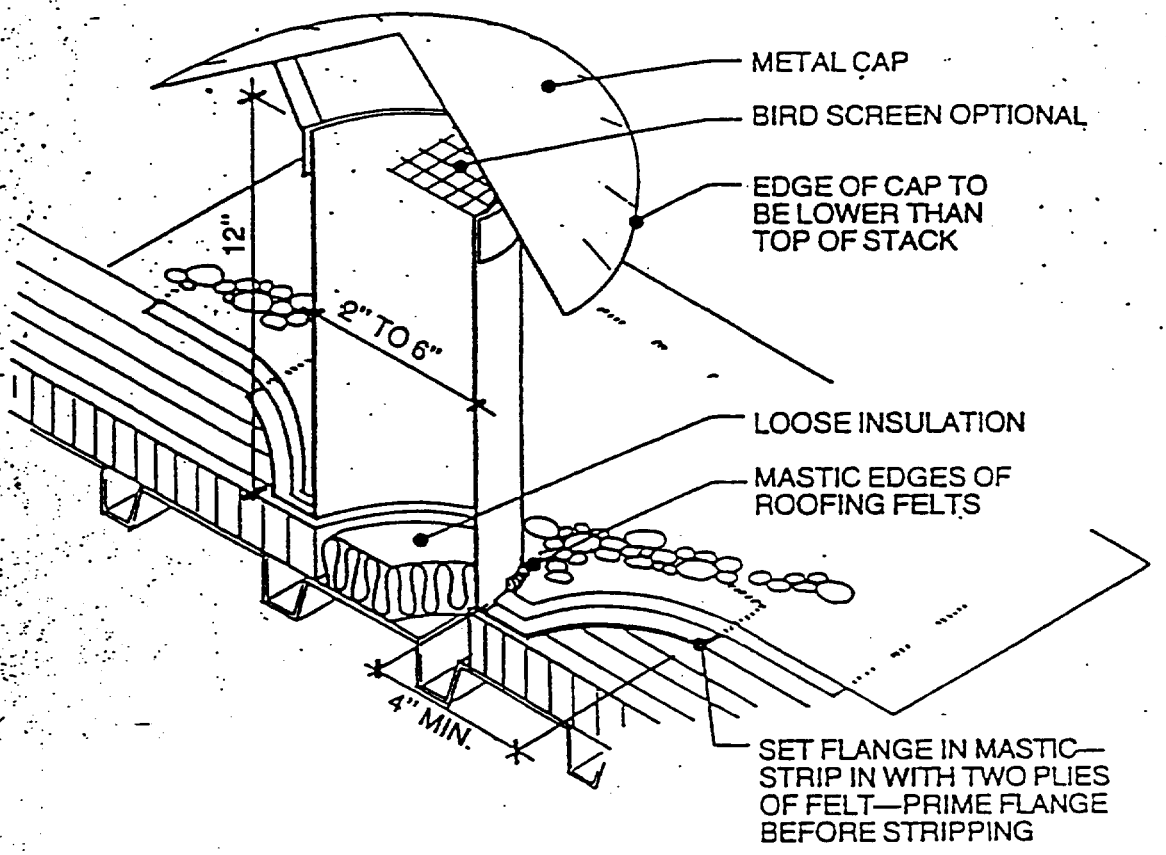
NATIONAL ROOFING CONTRACTORS ASSOCIATION

1985 U

ROOF RELIEF VENT



NOTE:

THIS DETAIL IS USED TO RELIEVE MOISTURE VAPOR PRESSURE FROM INSULATION. THE MOISTURE MAY HAVE ENTERED DUE TO LEAKS, FAULTY VAPOR RETARDERS OR DURING CONSTRUCTION. THE SPACING OF RELIEF VENTS IS DETERMINED BY THE TYPE OF INSULATION USED AND THE AMOUNT OF MOISTURE TO BE RELIEVED. THIS DETAIL IS SOMETIMES USED FOR NEW ROOFS WHEN VAPOR RETARDERS ARE USED AND A VENTING SYSTEM IS DESIRED. .

BUILT-UP ROOFING
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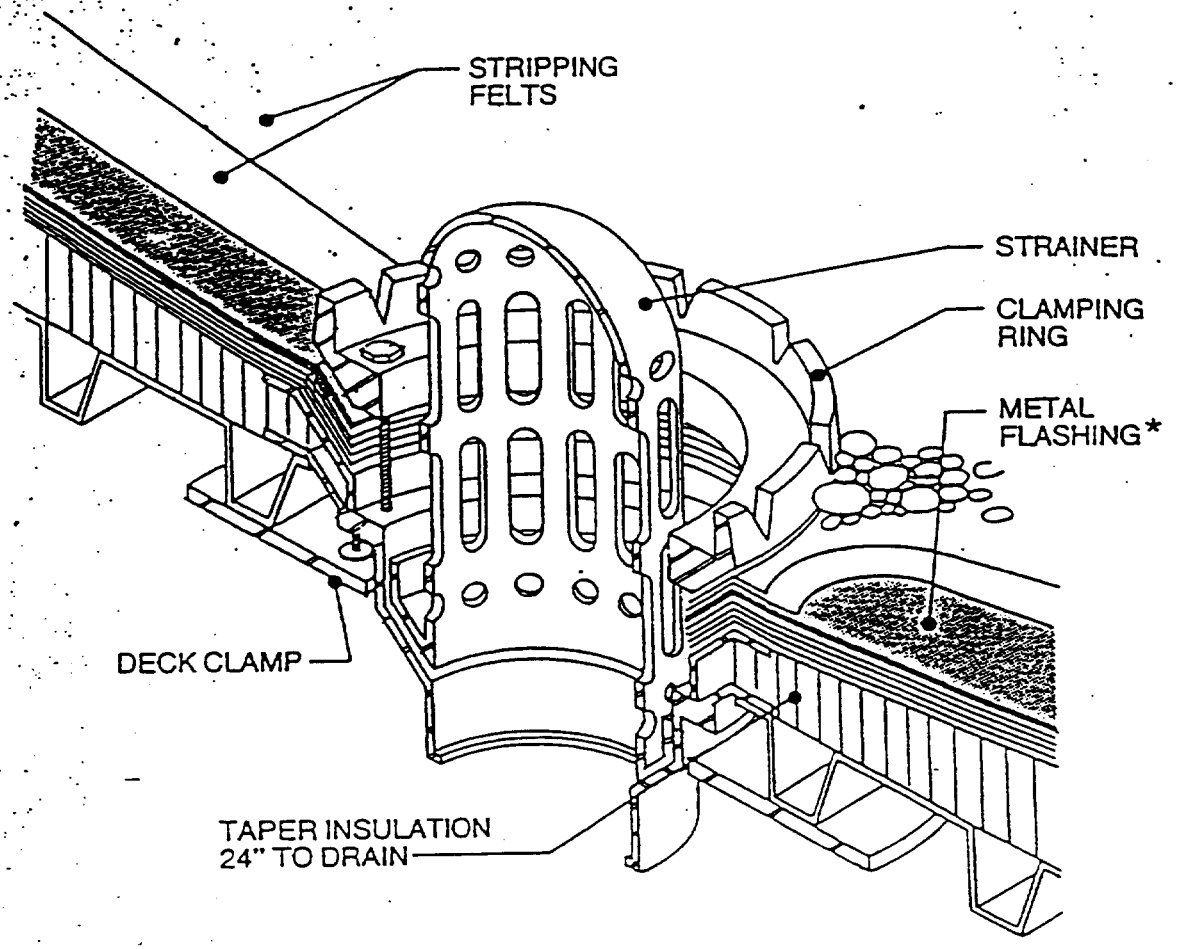
1985 V



NOTES:

*MIN. 30" SQUARE 2½-LB. TO 4-LB. LEAD OR 16-OZ. SOFT COPPER FLASHING SET ON FINISHED ROOFING FELTS IN MASTIC. PRIME TOP SURFACE BEFORE STRIPPING.

MEMBRANE PLIES, METAL FLASHING, AND FLASH-IN PLIES EXTEND UNDER CLAMPING RING.

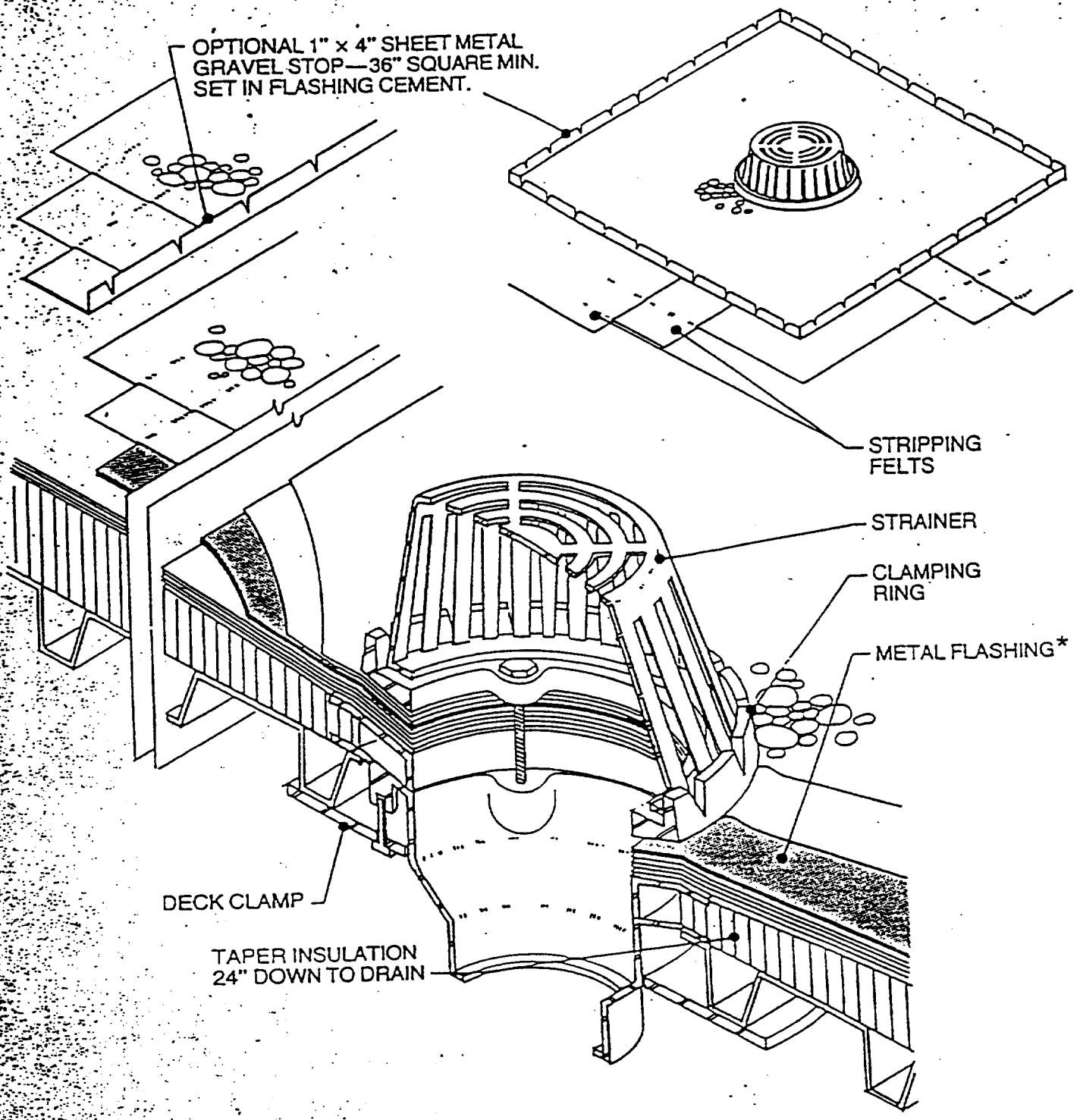
STRIPPING FELTS EXTEND 4" AND 6" BEYOND EDGE OF FLASHING SHEET, BUT NOT BEYOND EDGE OF SUMP.

BUILT-UP ROOFING

NATIONAL ROOFING CONTRACTORS ASSOCIATION

1985 W-1

ROOF DRAIN



NOTES:

* MIN. 30" SQAURE 2½-LB. TO 4-LB. LEAD OR 16-OZ. SOFT COPPER FLASHING SET ON FINISHED ROOF FELTS IN MASTIC. PRIME TOP SURFACE BEFORE STRIPPING.

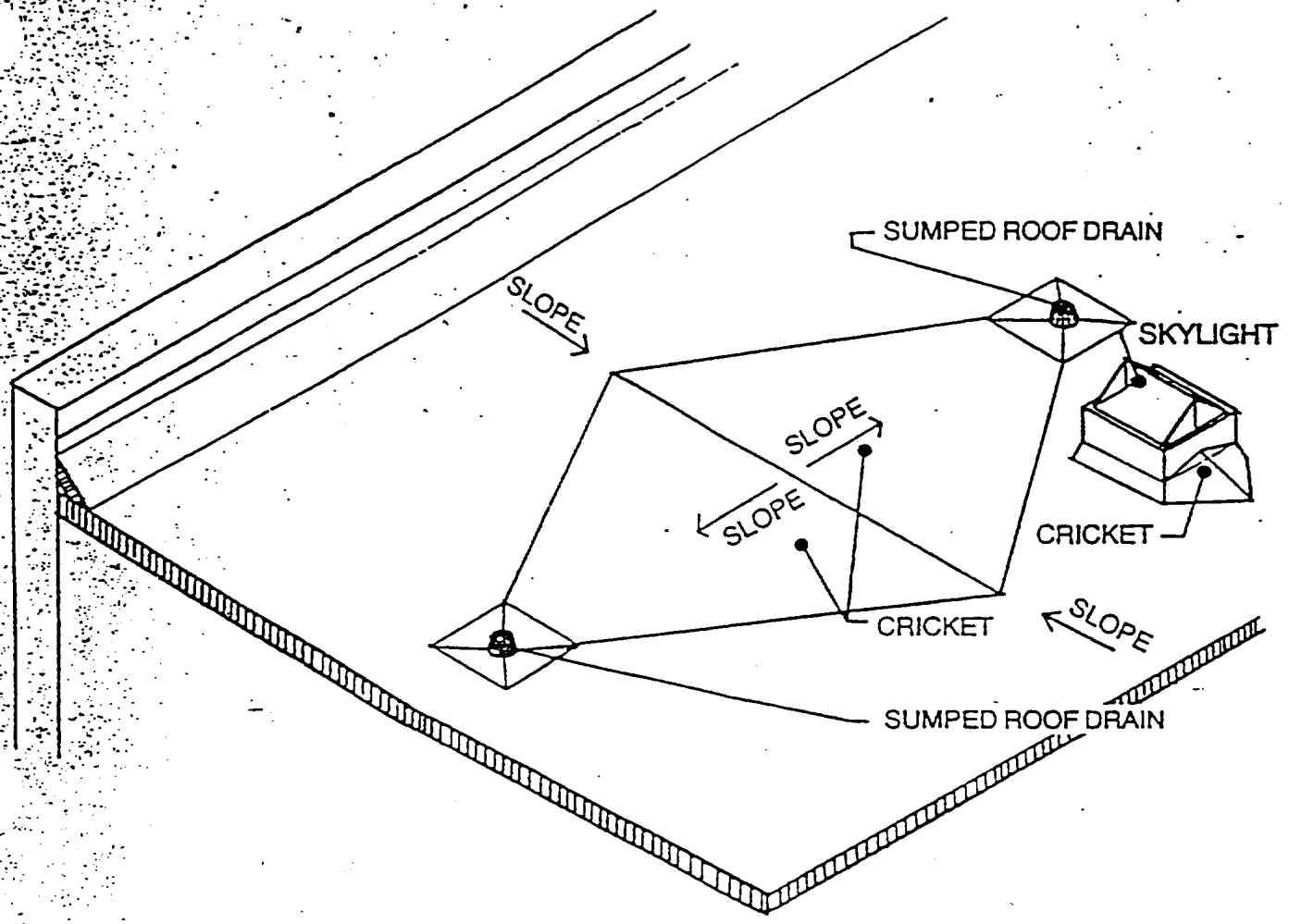
MEMBRANE PLIES, METAL FLASHING, AND FLASH-IN PLIES EXTEND UNDER CLAMPING RING.

STRIPPING FELTS—EXTEND 4" AND 6" BEYOND EDGE OF FLASHING SHEET, BUT NOT BEYOND EDGE OF SUMP.

BUILT-UP ROOFING

NATIONAL ROOFING CONTRACTORS ASSOCIATION

1985 W-2



NOTE:

CRICKETS SHOULD BE LOCATED IN LOW VALLEYS BETWEEN ROOF DRAINS AND ON THE HIGH SIDE OF ALL CURBS.

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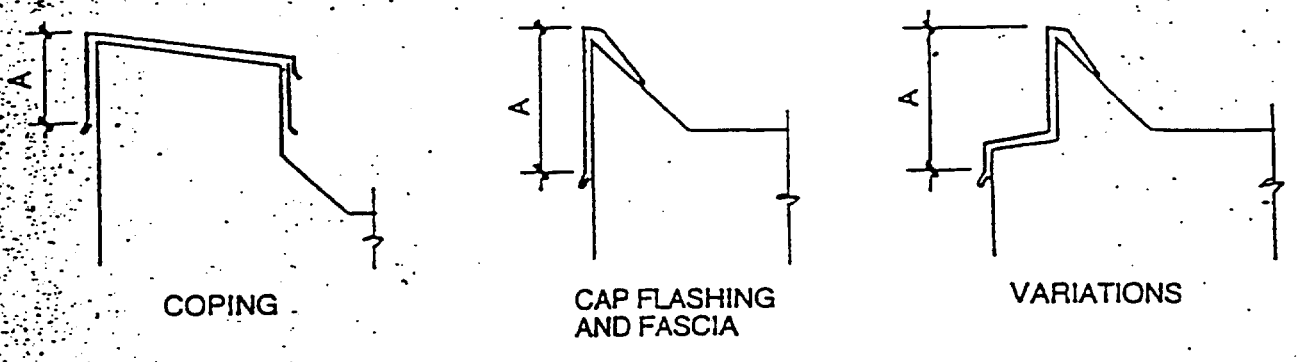
NATIONAL ROOFING CONTRACTORS ASSOCIATION

1985 X

FOR METAL FASCIA EXPOSED TO VIEW



COPING

CAP FLASHING AND FASCIA

VARIATIONS

RECOMMENDED MINIMUM GAUGES FOR FASCIA SHOWN ABOVE

EXPOSED FACE WITHOUT BRAKES "A" DIMENSION	GALVANIZED IRON	COLD ROLLED COPPER	ALUMINUM 3003-H14
UP TO 6" FACE	26 GA.	16 OZ.	.040" (18 GA.)
6" TO 8" FACE	24 GA.	16 OZ.	.050" (16 GA.)
8" TO 10" FACE	22 GA.	20 OZ.	.064" (14 GA.)
10" TO 15" FACE	20 GA.	ADD BRAKES TO STIFFEN	.080" (12 GA.)

NOTE:

WHEN USING THE ABOVE TABLE, OTHER ITEMS SHOULD BE CONSIDERED, SUCH AS FASTENING PATTERN. FOR INSTANCE, IF THE METAL CAN ONLY BE FASTENED AT 10 FOOT INTERVALS, A HEAVIER GAUGE METAL WOULD BE REQUIRED.

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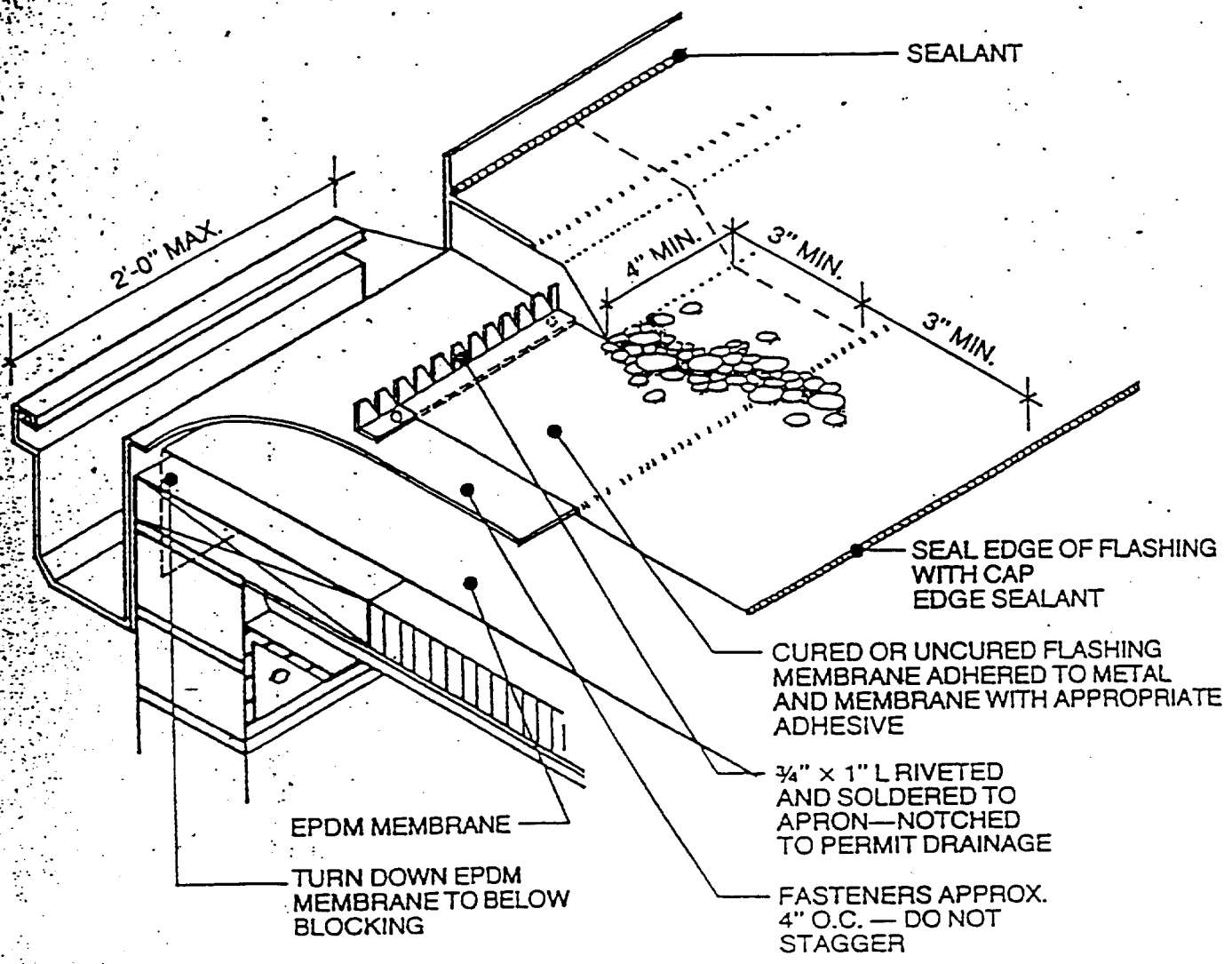
SCUPPER THROUGH ROOF EDGE



NOTES:

THIS DETAIL SHOULD BE USED ONLY WHERE THE DECK IS SUPPORTED BY THE OUTSIDE WALL.

THIS DETAIL CAN BE ADAPTED TO ROOF EDGES SHOWN IN DETAIL D, AND IS EASY TO INSTALL AFTER THE BUILDING IS COMPLETED. THIS DETAIL IS USED TO RELIEVE STANDING WATER IN AREAS ALONG THE ROOF EDGE. ALL ROOF SURFACES SHOULD BE SLOPED TO DRAIN.

ATTACH NAILER TO MASONRY WALL. REFER TO FACTORY MUTUAL DATA SHEET 1-49.

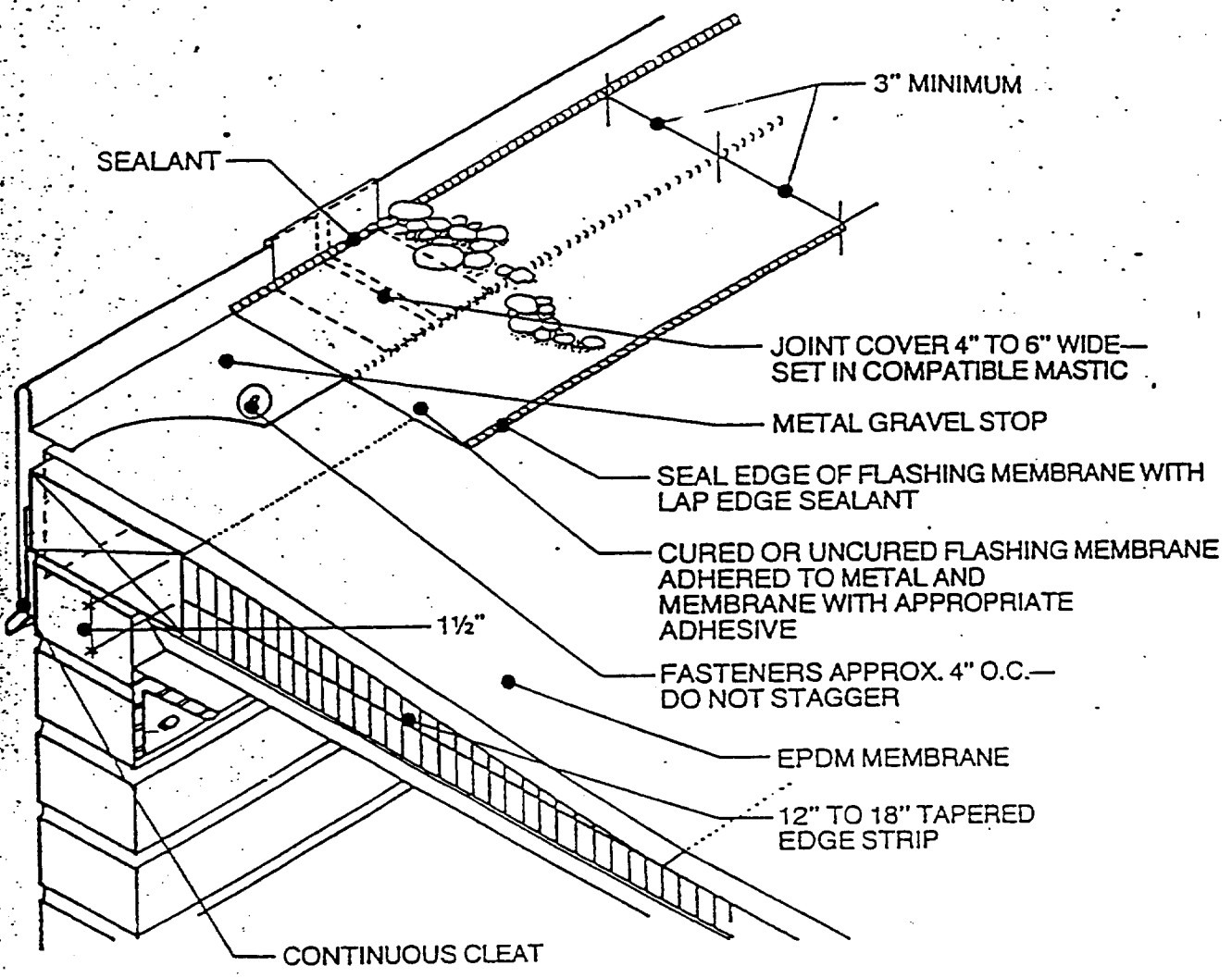
WOOD BLOCKING MAY BE SLOTTED FOR VENTING WHERE REQUIRED.

EPDM SINGLE-PLY

NATIONAL ROOFING CONTRACTORS ASSOCIATION

1985 B

LIGHT-METAL ROOF EDGE



NOTES:

ATTACH NAILER TO MASONRY WALL. REFER TO FACTORY MUTUAL DATA SHEET 1-49.

THIS DETAIL SHOULD BE USED ONLY WHERE DECK IS SUPPORTED BY THE OUTSIDE WALL.

THIS DETAIL SHOULD BE USED WITH LIGHT-GAUGE METALS, SUCH AS 16-OZ. COPPER, 24-GAUGE GALVANIZED METAL OR 0.040" ALUMINUM. A TAPERED EDGE STRIP IS USED TO RAISE THE GRAVEL STOP. FREQUENT NAILING IS NECESSARY TO CONTROL THERMAL MOVEMENT.

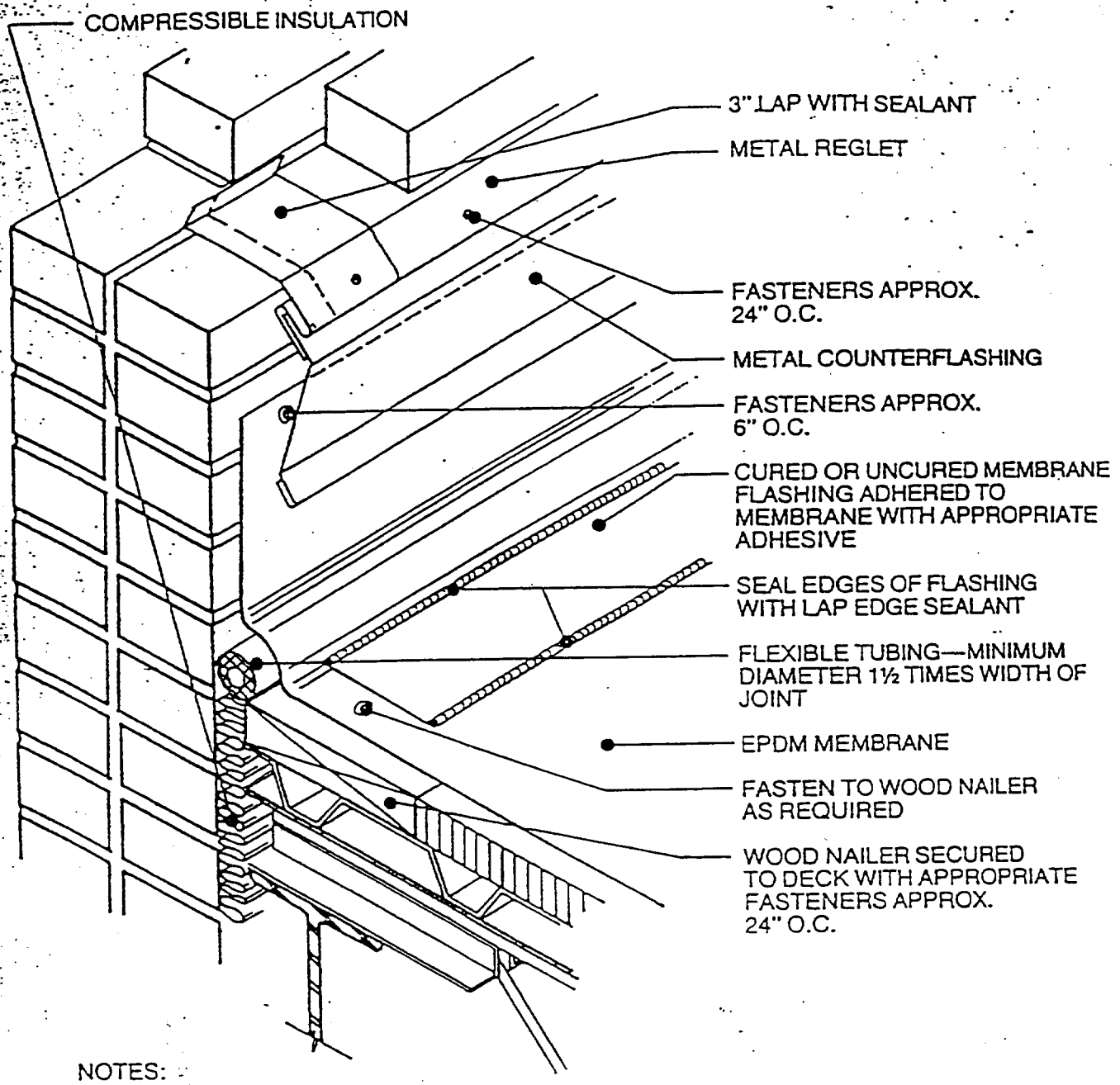
WOOD BLOCKING MAY BE SLOTTED FOR VENTING WHERE REQUIRED.

EPDM SINGLE-PLY

NATIONAL ROOFING CONTRACTORS ASSOCIATION

1985 D

BASE FLASHING FOR NON-WALL-SUPPORTED DECK



NOTES:

THIS DETAIL ALLOWS WALL AND DECK TO MOVE INDEPENDENTLY.

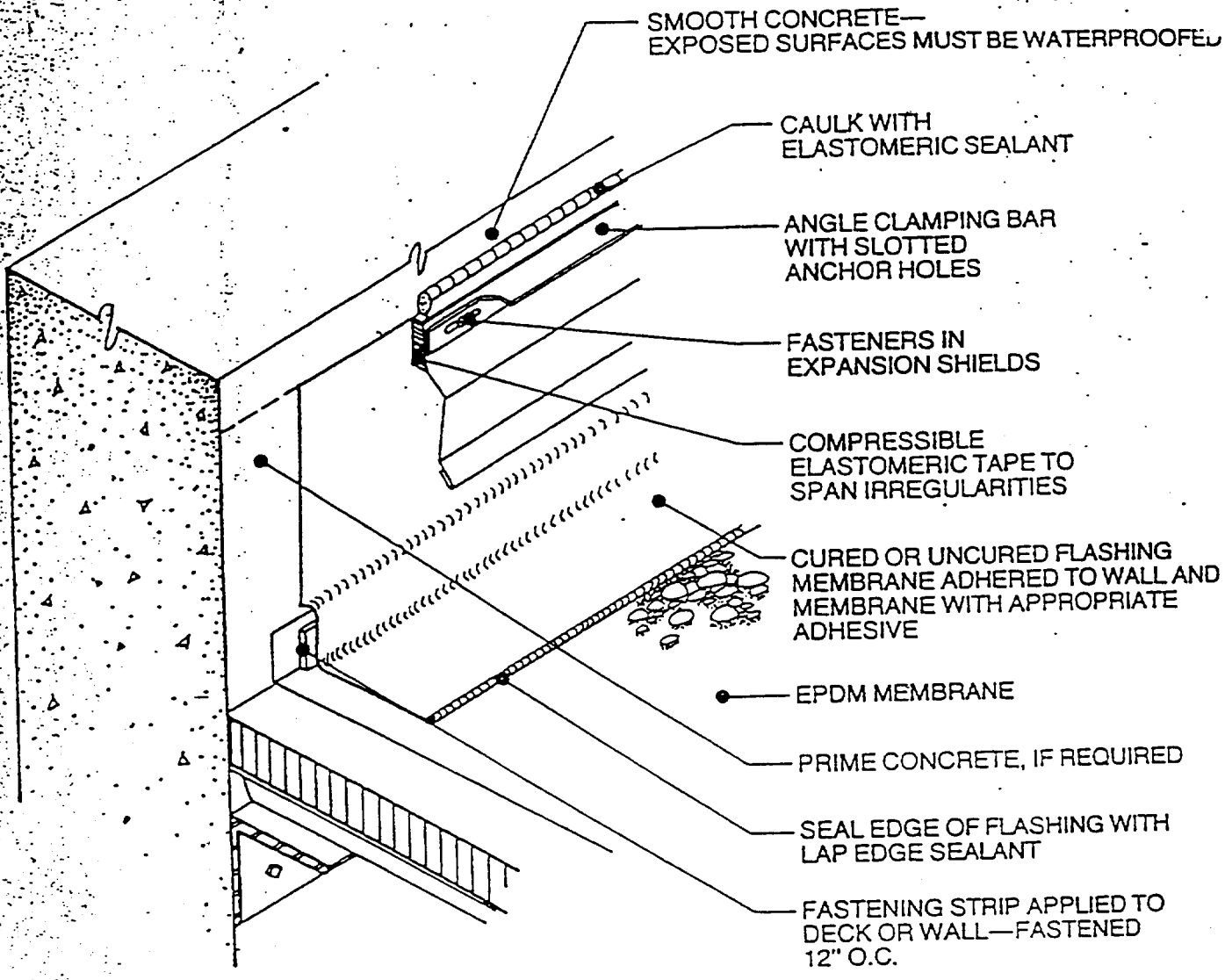
THIS DETAIL SHOULD BE USED WHERE THERE IS ANY POSSIBILITY THAT DIFFERENTIAL MOVEMENT WILL OCCUR BETWEEN THE DECK AND A VERTICAL SURFACE SUCH AS AT A PENTHOUSE WALL.

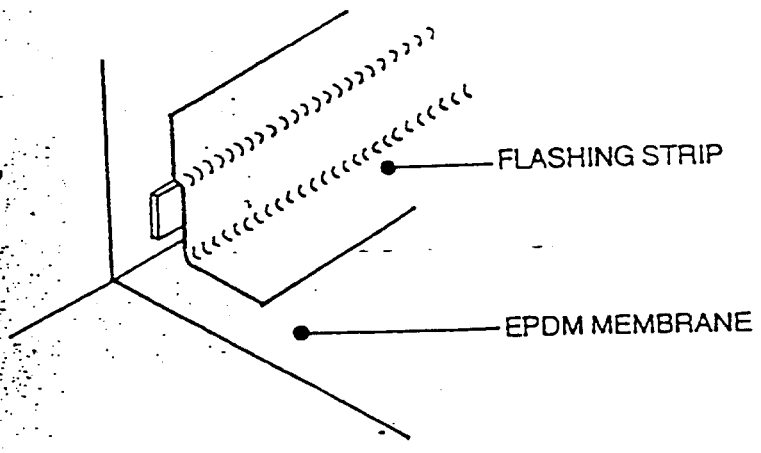
EPDM SINGLE-PLY

NATIONAL ROOFING CONTRACTORS ASSOCIATION

1985 E

COUNTERFLASHING FOR CONCRETE WALLS OR PARAPETS





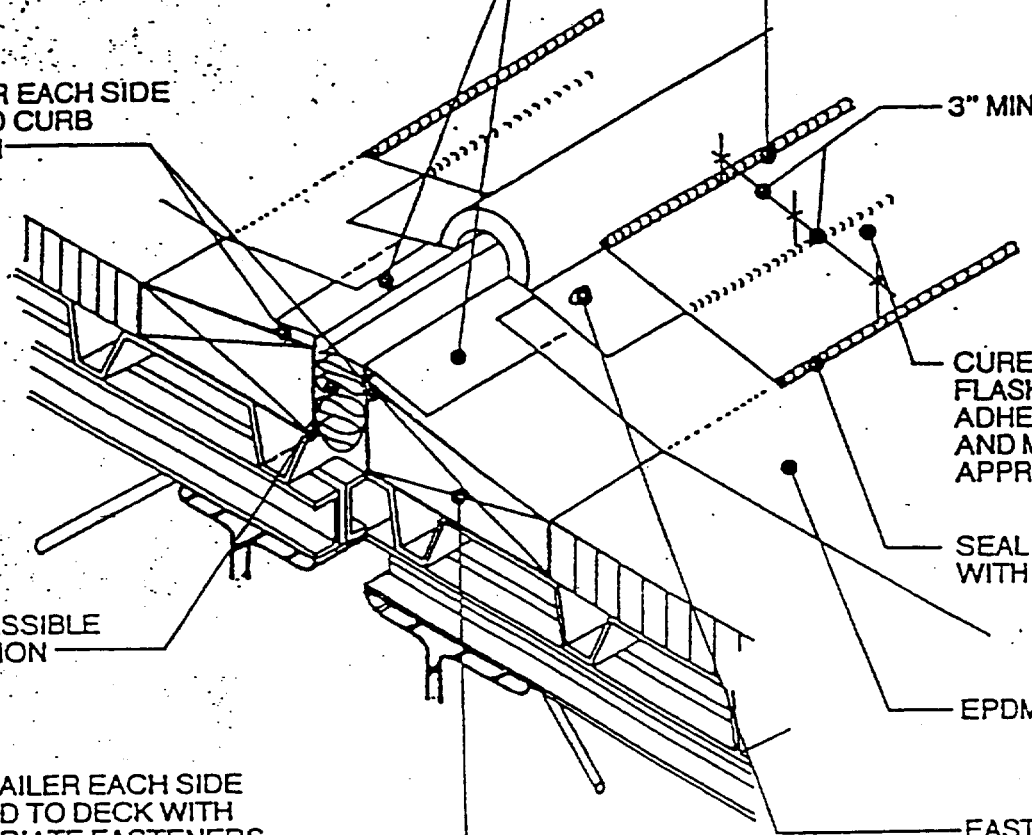
ALTERNATE BASE FLASHING ARRANGEMENT

EPDM SINGLE-PLY

NATIONAL ROOFING CONTRACTORS ASSOCIATION

1985 H

EXPANSION JOINT



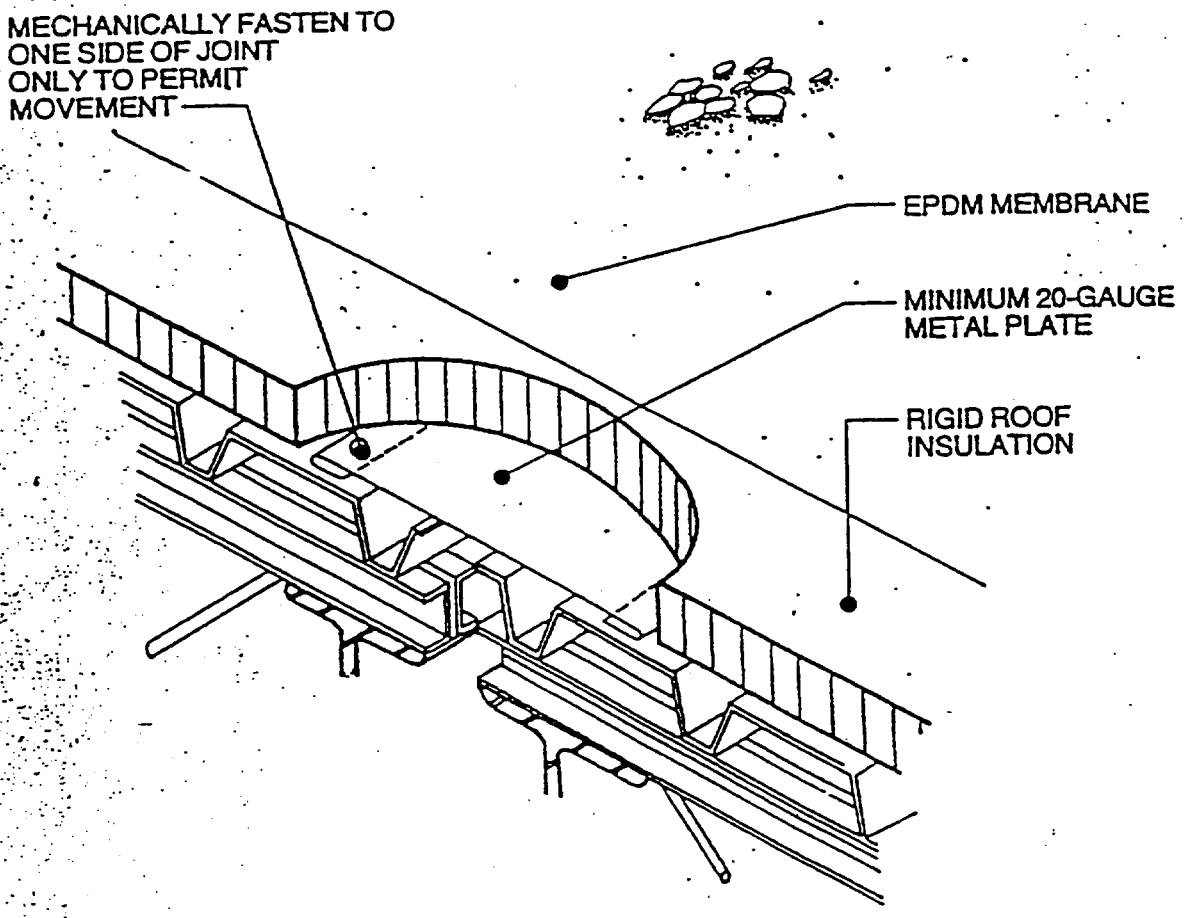
NATIONAL ROOFING CONTRACTORS ASSOCIATION

EPDM SINGLE-PLY

NATIONAL ROOFING CONTRACTORS ASSOCIATION

1985 K-1

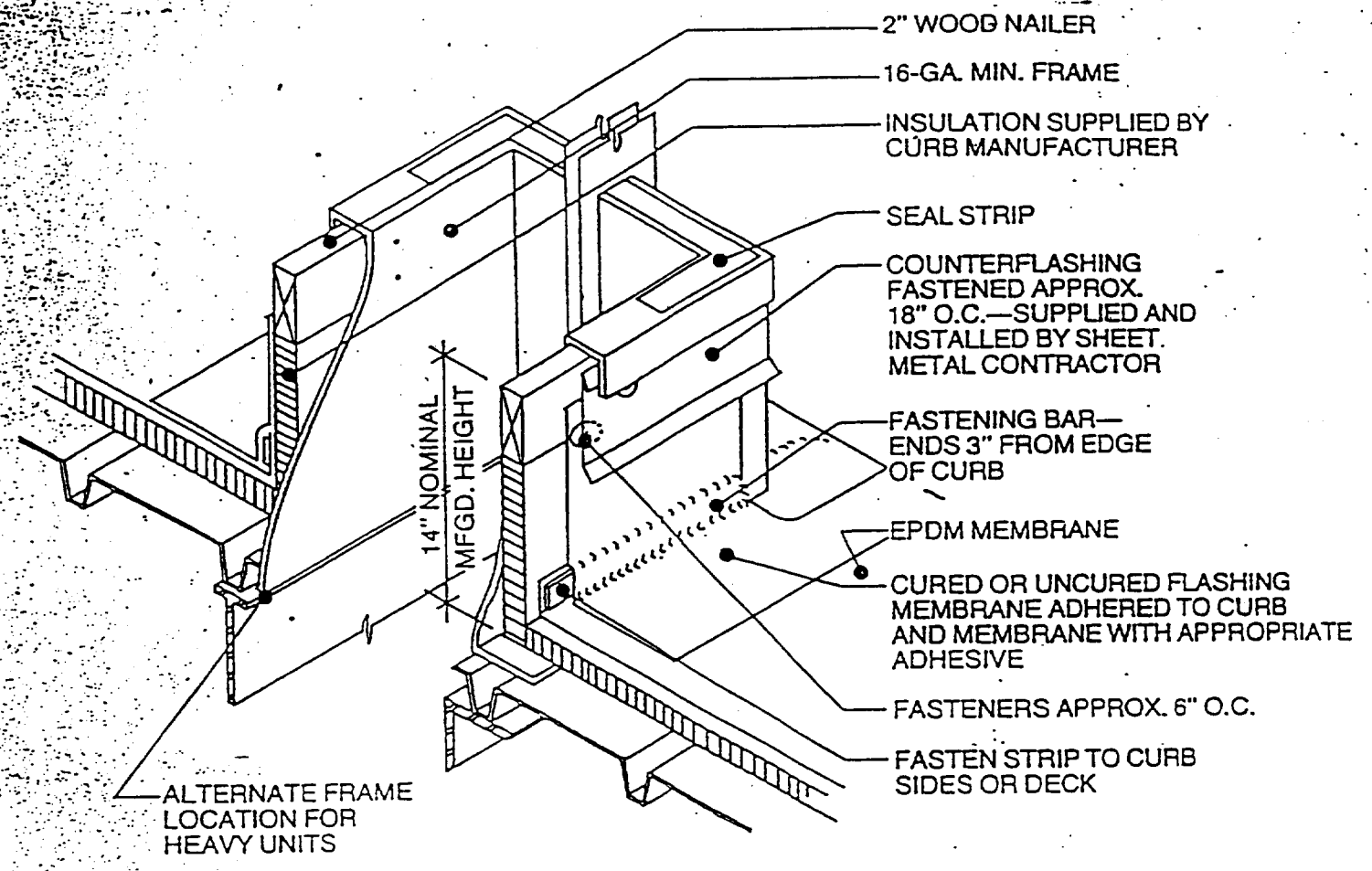
EXPANSION JOINT

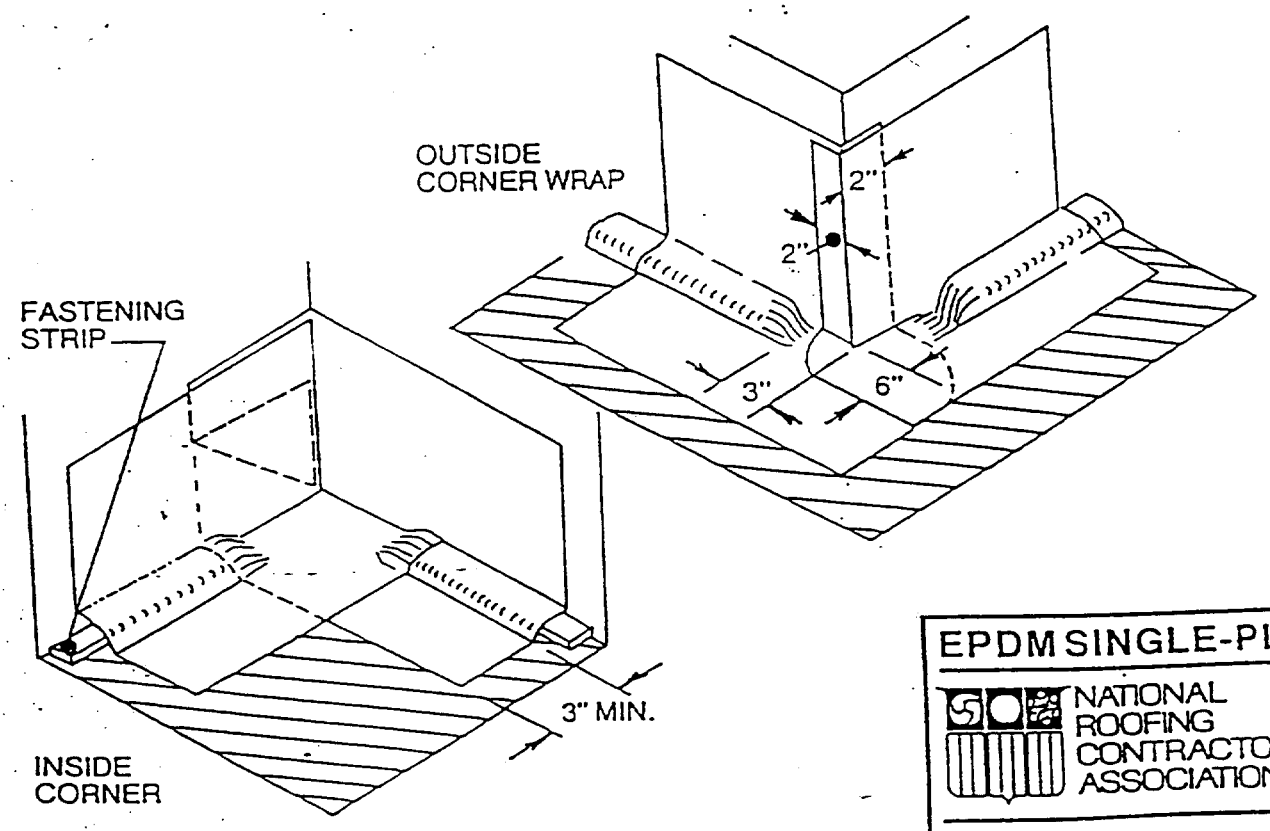


NOTE:
THIS DETAIL SHOULD ONLY BE USED WITH LOOSE-LAID BALLASTED SYSTEMS.

EPDM SINGLE-PLY
NATIONAL ROOFING CONTRACTORS ASSOCIATION
1985 K-2

CURB DETAIL FOR ROOFTOP AIR HANDLING UNITS



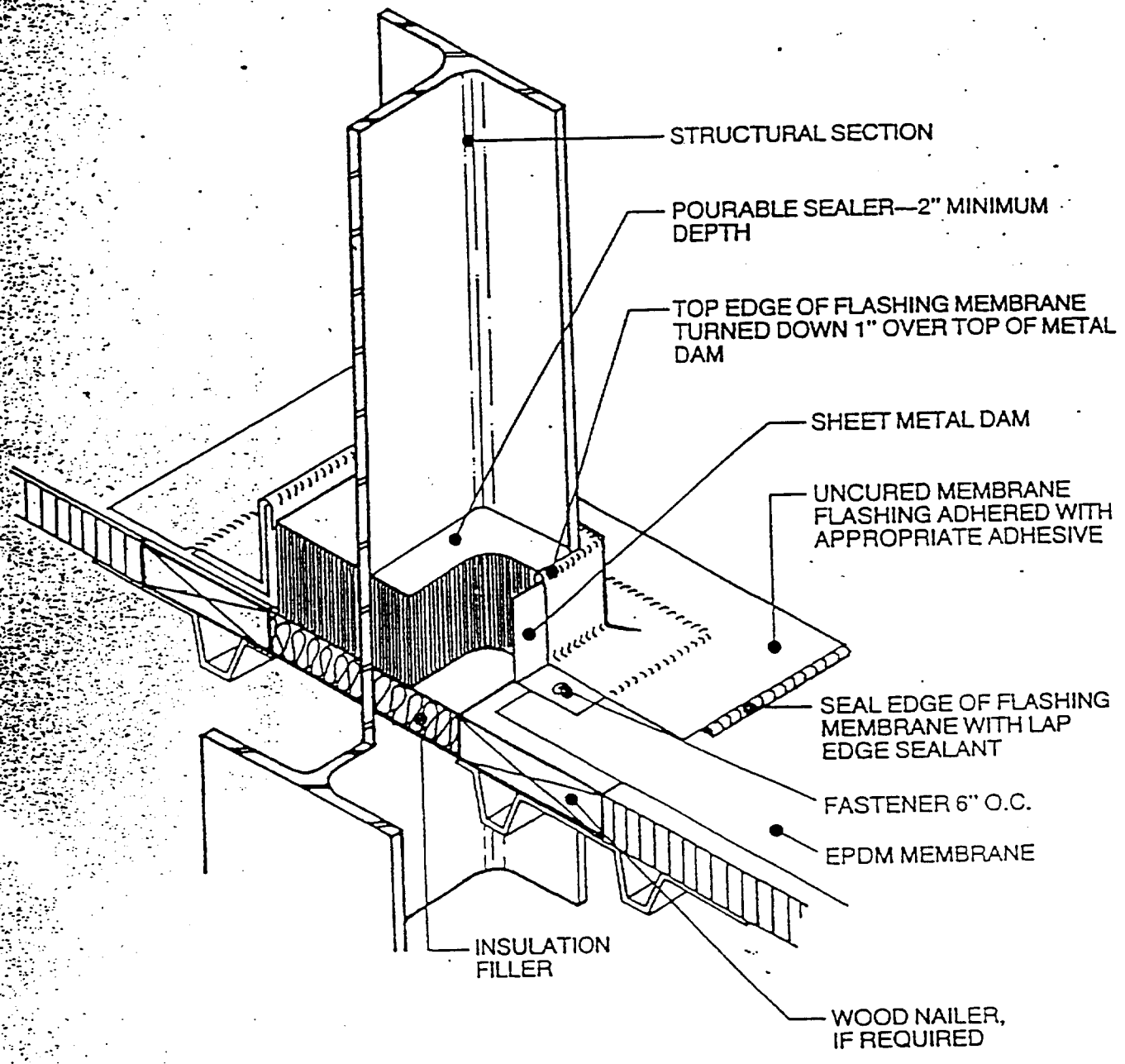


EPDM SINGLE-PLY

NATIONAL ROOFING CONTRACTORS ASSOCIATION

1985 N

FLASHING STRUCTURAL MEMBER THROUGH ROOF DECK

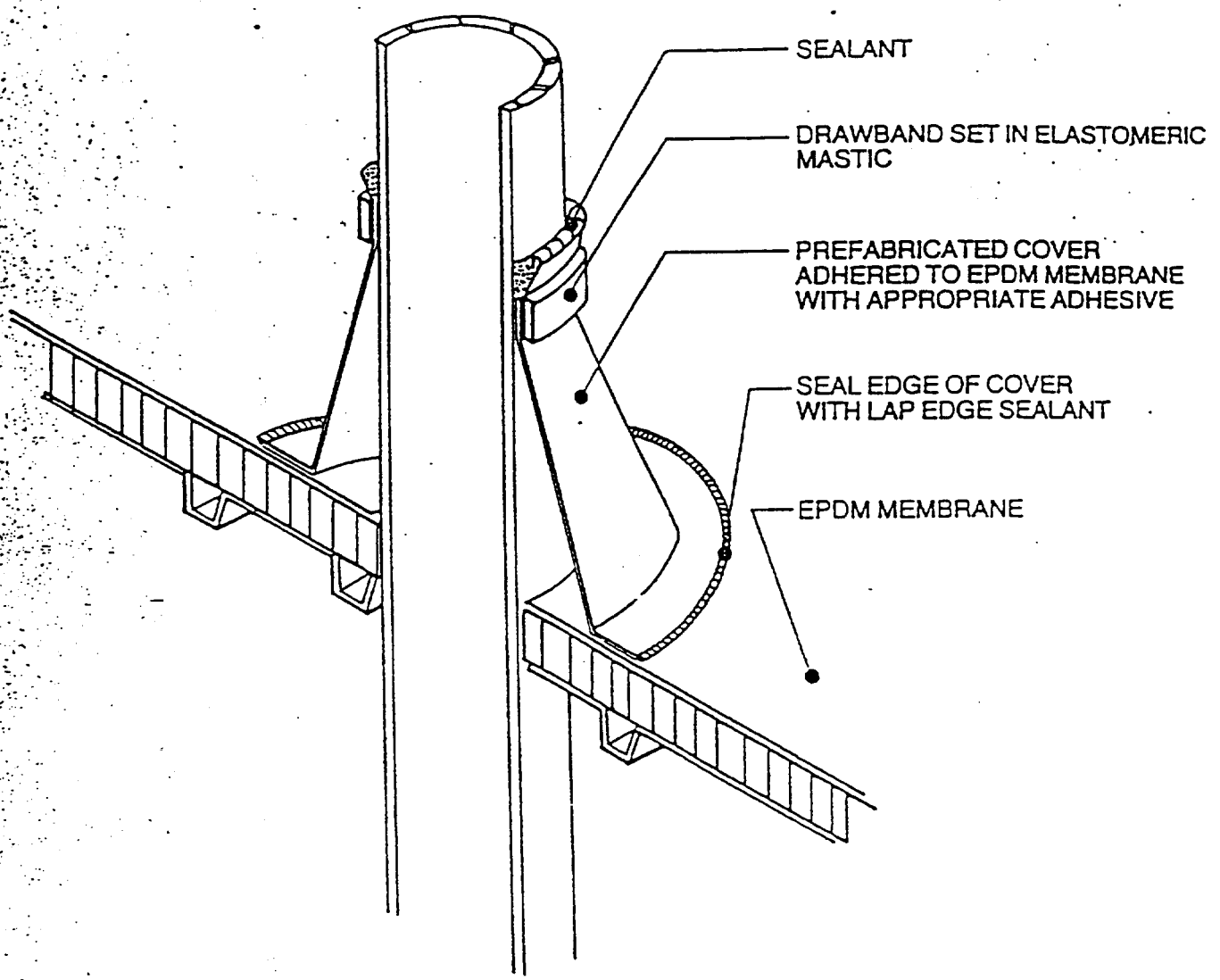


EPDM SINGLE-PLY

NATIONAL ROOFING CONTRACTORS ASSOCIATION

1985 Q

PIPE FLASHING USING PREFABRICATED COVER



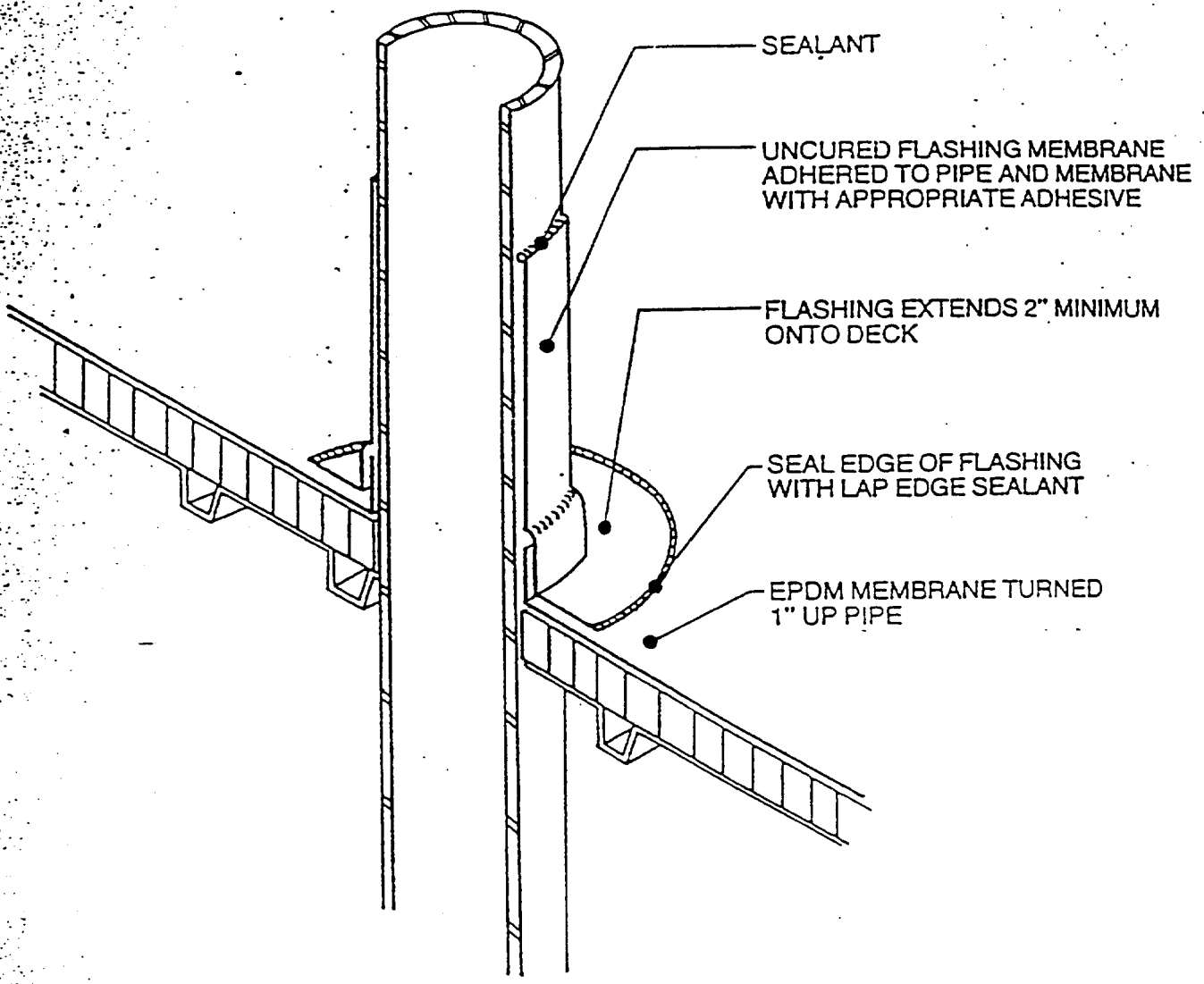
NATIONAL ROOFING CONTRACTORS ASSOCIATION

EPDM SINGLE-PLY

NATIONAL ROOFING CONTRACTORS ASSOCIATION

1985 T-1

FIELD-FABRICATED PIPE FLASHING



NOTES:

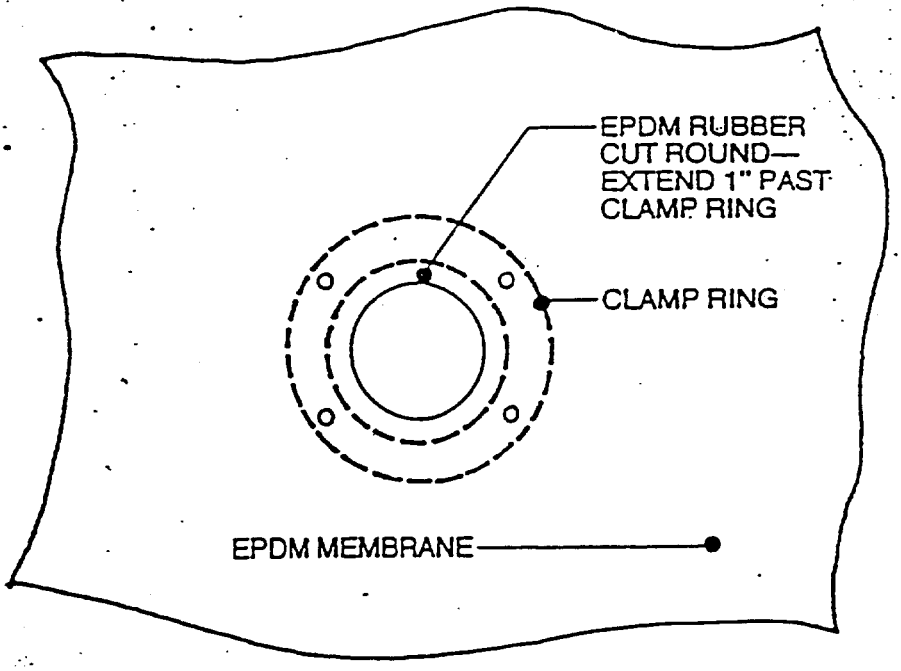
1. THIS DETAIL SHOULD BE USED ONLY WHEN PRE-FABRICATED COVERS ARE NOT EMPLOYED.
2. THE OVERLAP AS THE FLASHING WRAPS THE PIPE, SHOULD BE A MINIMUM OF 3" AND SHOULD BE ADHERED WITH APPROPRIATE ADHESIVE. THE EDGE OF THE OVERLAP SHOULD BE SEALED WITH LAP EDGE SEALANT.

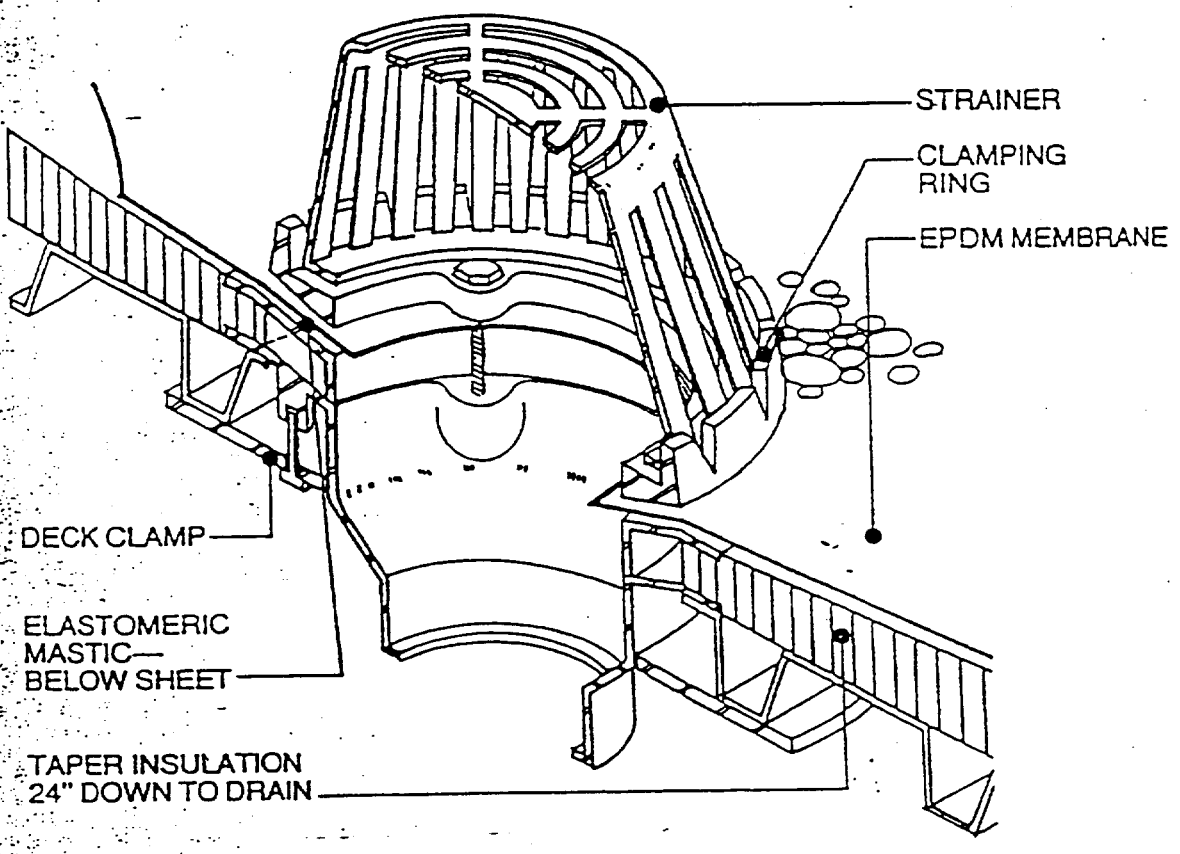
EPDM SINGLE-PLY

NATIONAL ROOFING CONTRACTORS ASSOCIATION

1985 T-2

ROOF DRAIN





EPDM SINGLE-PLY

NATIONAL ROOFING CONTRACTORS ASSOCIATION

1985 W

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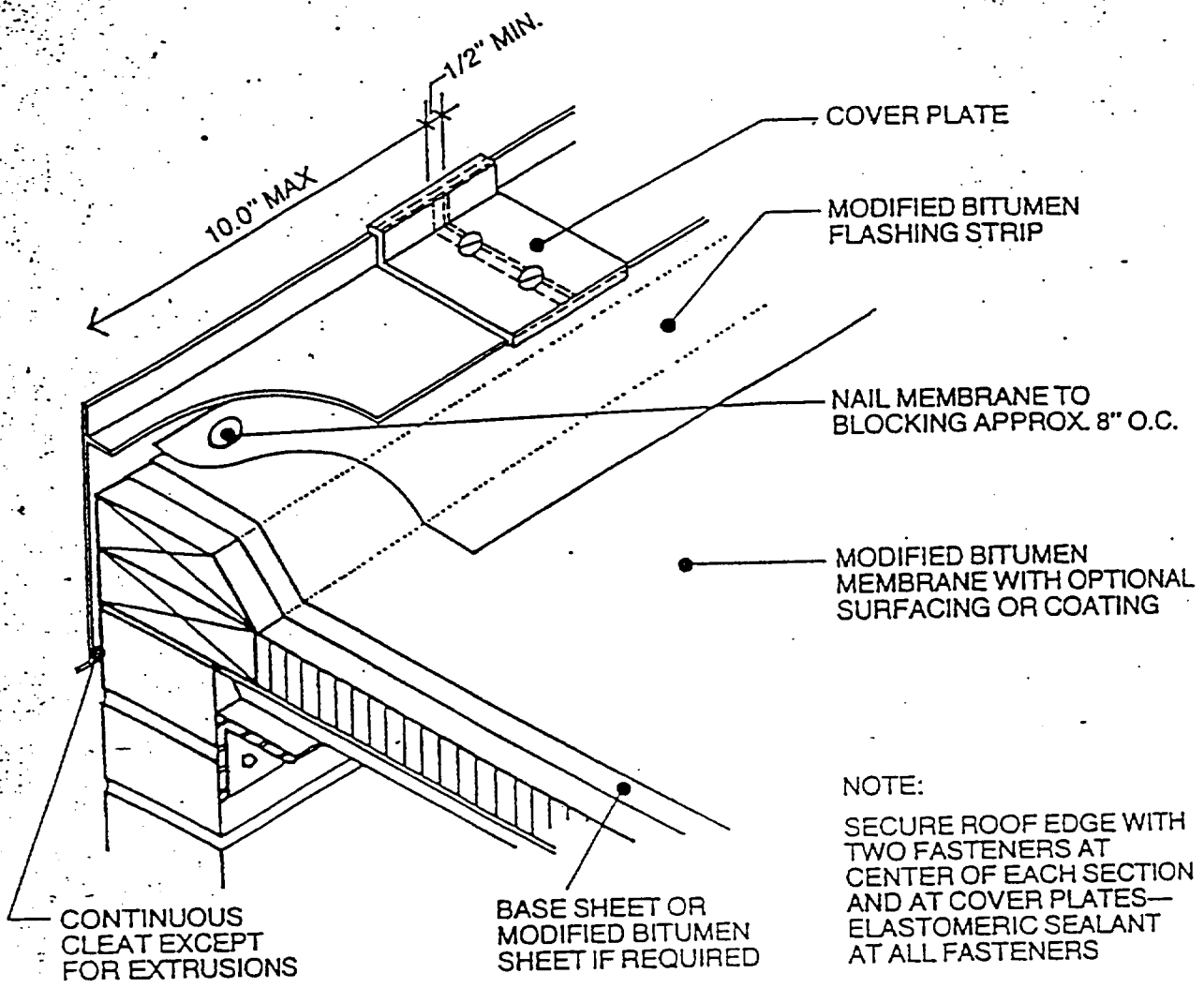
HEAVY-METAL ROOF EDGE



NOTES:

THIS DETAIL SHOULD BE USED ONLY WHERE THE DECK IS SUPPORTED BY THE OUTSIDE WALL.

METALS OF 22-GAUGE STEEL, 0.050" ALUMINUM, 24-GAUGE STAINLESS STEEL OR HEAVIER ARE APPROPRIATE FOR THIS DETAIL. METALS OF THIS WEIGHT ARE VERY RIGID WHEN FORMED, AND FASTENING AT THE CENTER-LINE AND JOINT COVER WILL ALLOW EXPANSION AND CONTRACTION WITHOUT DAMAGING THE BASE FLASHING MATERIAL.

ATTACH NAILER TO MASONRY WALL. REFER TO FACTORY MUTUAL DATA SHEET 1-49.

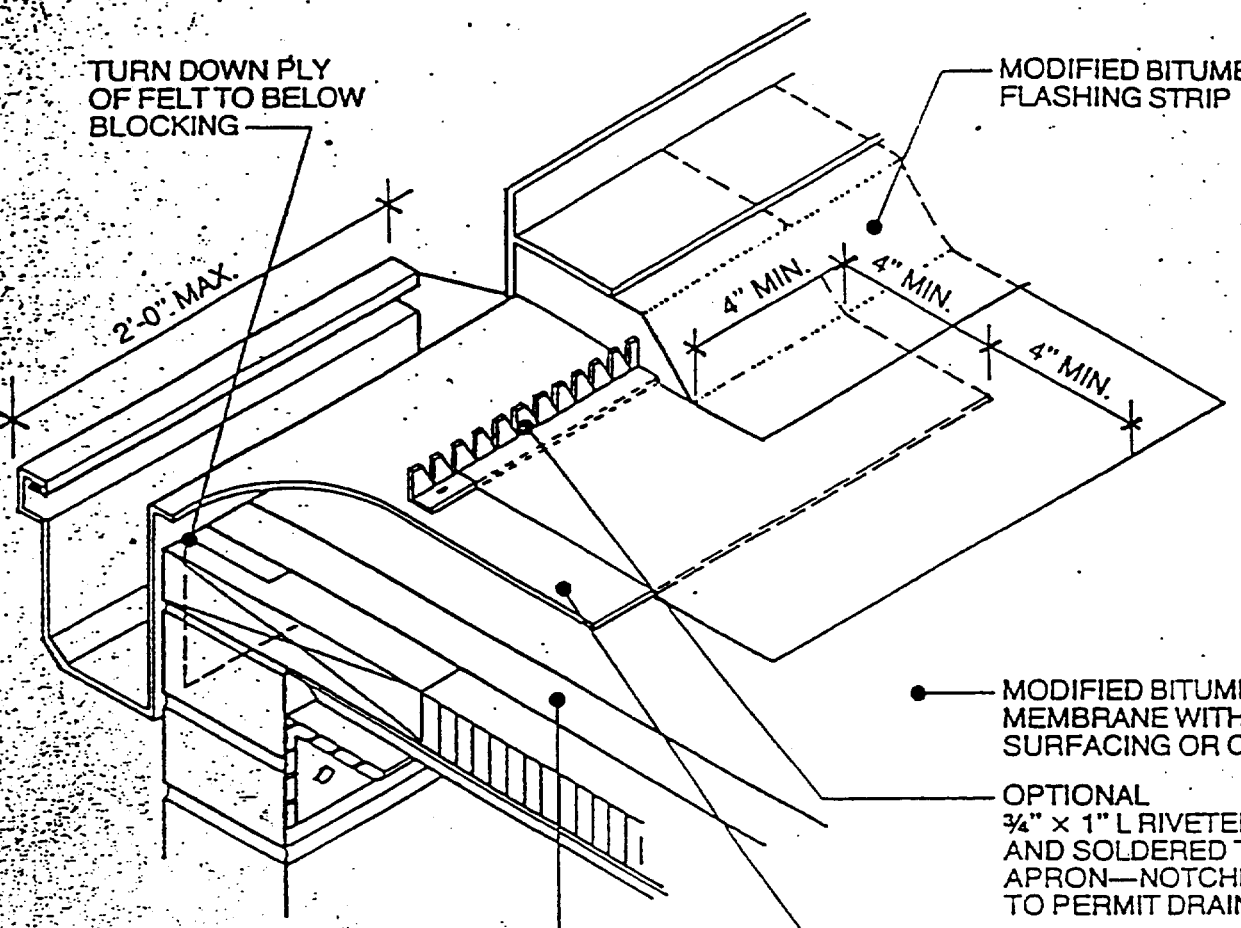
WOOD BLOCKING MAY BE SLOTTED FOR VENTING WHERE REQUIRED.

MODIFIED BITUMEN

NATIONAL ROOFING CONTRACTORS ASSOCIATION

1985 A

SCUPPER THROUGH ROOF EDGE



NOTES:

THIS DETAIL SHOULD BE USED ONLY WHERE THE DECK IS SUPPORTED BY THE OUTSIDE WALL.

THIS DETAIL CAN BE ADAPTED TO ROOF EDGES SHOWN IN DETAILS C AND D AND IS EASY TO INSTALL AFTER THE BUILDING IS COMPLETED. THIS DETAIL IS USED TO RELIEVE STANDING WATER IN AREAS ALONG THE ROOF EDGE. ALL ROOF SURFACES SHOULD BE SLOPED TO DRAIN.

ATTACH NAILER TO MASONRY WALL. REFER TO FACTORY MUTUAL DATA SHEET 1-49.

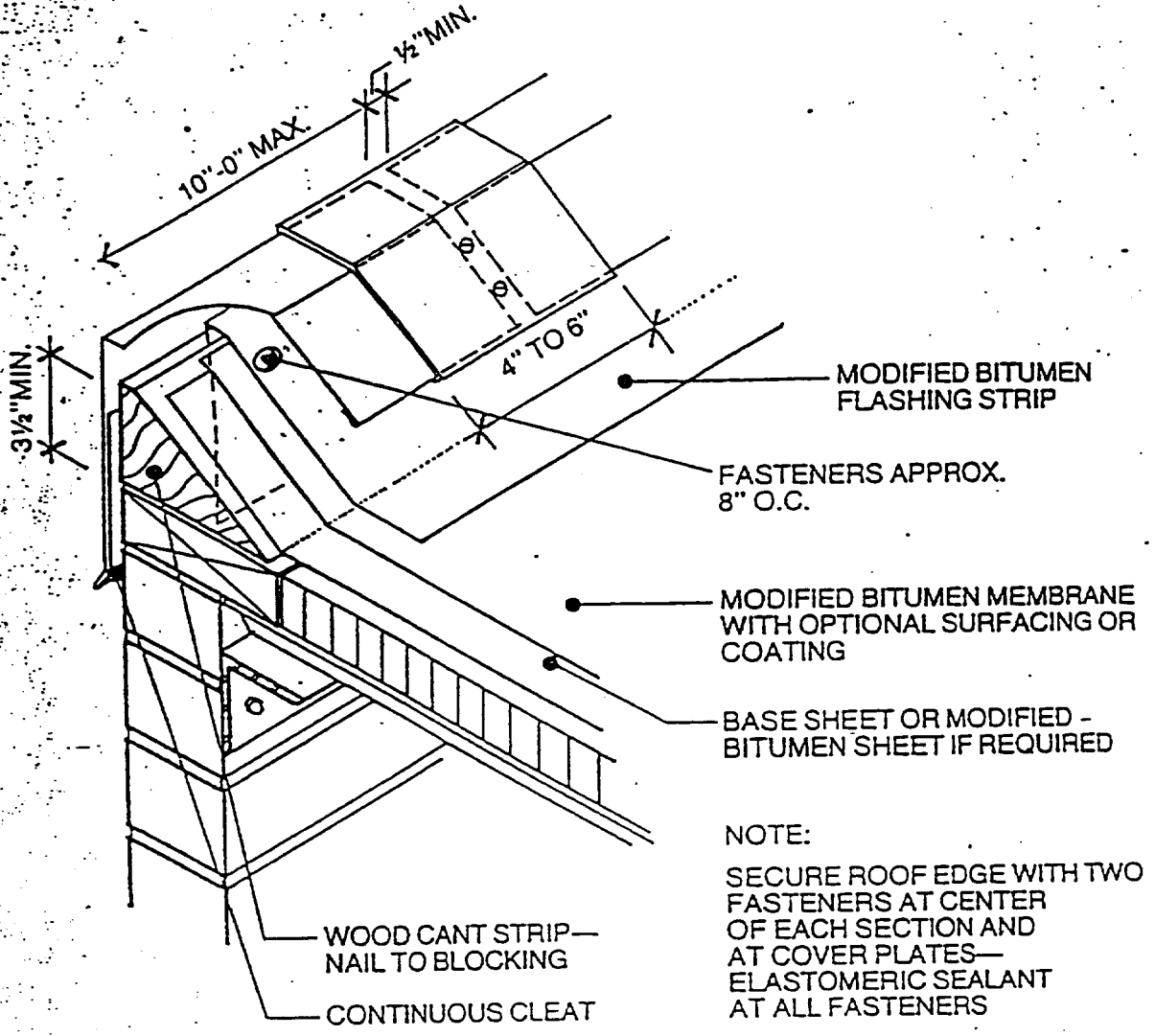
WOOD BLOCKING MAY BE SLOTTED FOR VENTING WHERE REQUIRED.

MODIFIED BITUMEN

NATIONAL ROOFING CONTRACTORS ASSOCIATION

1985 B

LIGHT-METAL ROOF EDGE



NOTES:

THIS DETAIL SHOULD BE USED ONLY WHERE THE DECK IS SUPPORTED BY THE OUTSIDE WALL.

THIS DETAIL IS SIMILAR TO DETAILS A AND D. THE CANT STRIP, PLACED AS SHOWN, WILL RESULT IN A HIGHER FASCIA LINE.

ATTACH NAILER TO MASONRY WALL. REFER TO FACTORY MUTUAL DATA SHEET 1-49.

WOOD BLOCKING MAY BE SLOTTED FOR VENTING WHERE REQUIRED.

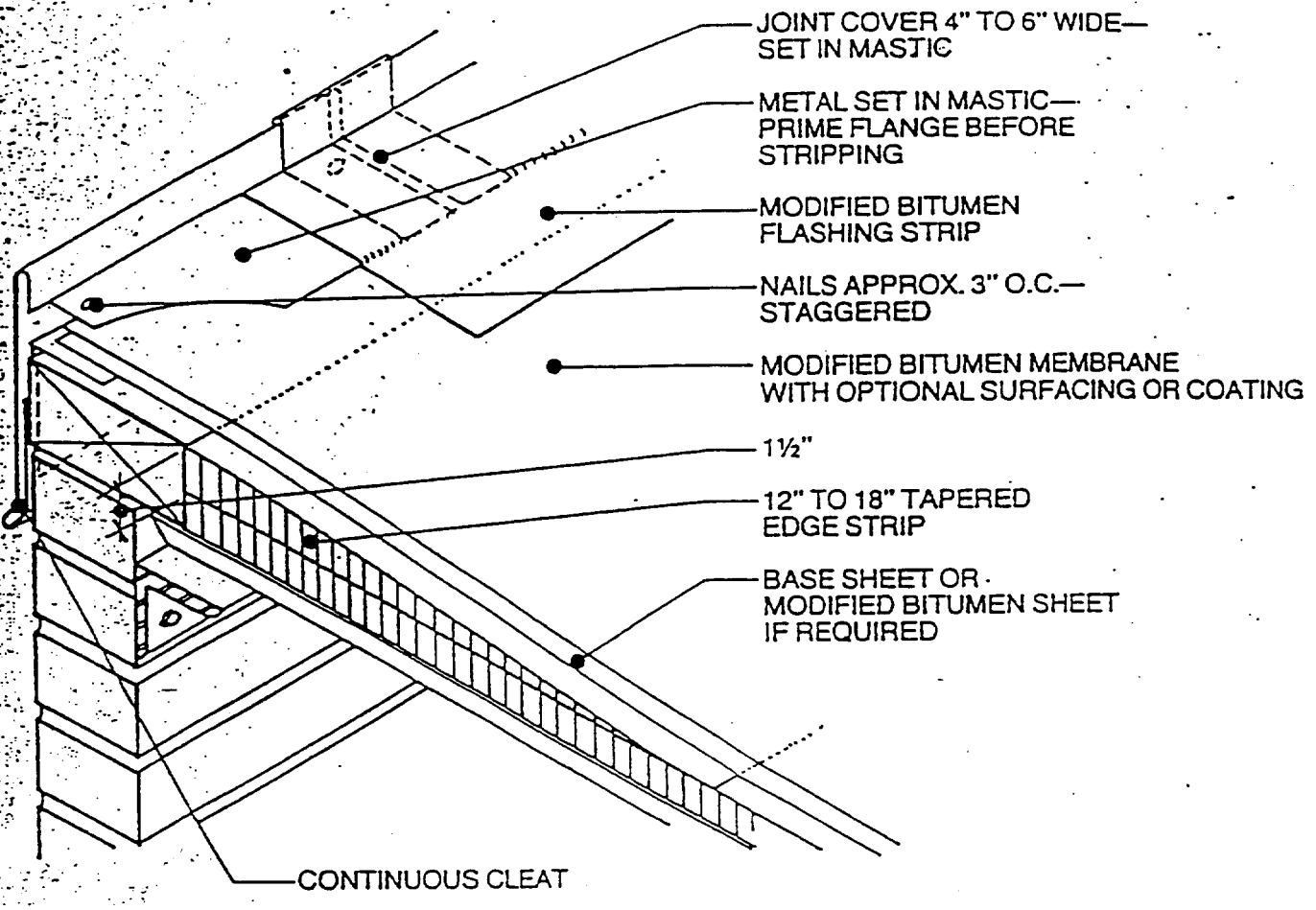
NATIONAL ROOFING CONTRACTORS ASSOCIATION

MODIFIED BITUMEN

NATIONAL ROOFING CONTRACTORS ASSOCIATION

1985 C

LIGHT-METAL ROOF EDGE



NOTES:

ATTACH NAILER TO MASONRY WALL. REFER TO FACTORY MUTUAL DATA SHEET 1-49.

THIS DETAIL SHOULD BE USED ONLY WHERE DECK IS SUPPORTED BY THE OUTSIDE WALL.

THIS DETAIL SHOULD BE USED WITH LIGHT-GAUGE METALS, SUCH AS 16-OZ. COPPER, 24-GAUGE GALVANIZED ALUMINUM OR 0.040" ALUMINUM. A TAPERED EDGE STRIP IS USED TO RAISE THE GRAVEL STOP. FREQUENT NAILING IS NECESSARY TO CONTROL THERMAL MOVEMENT.

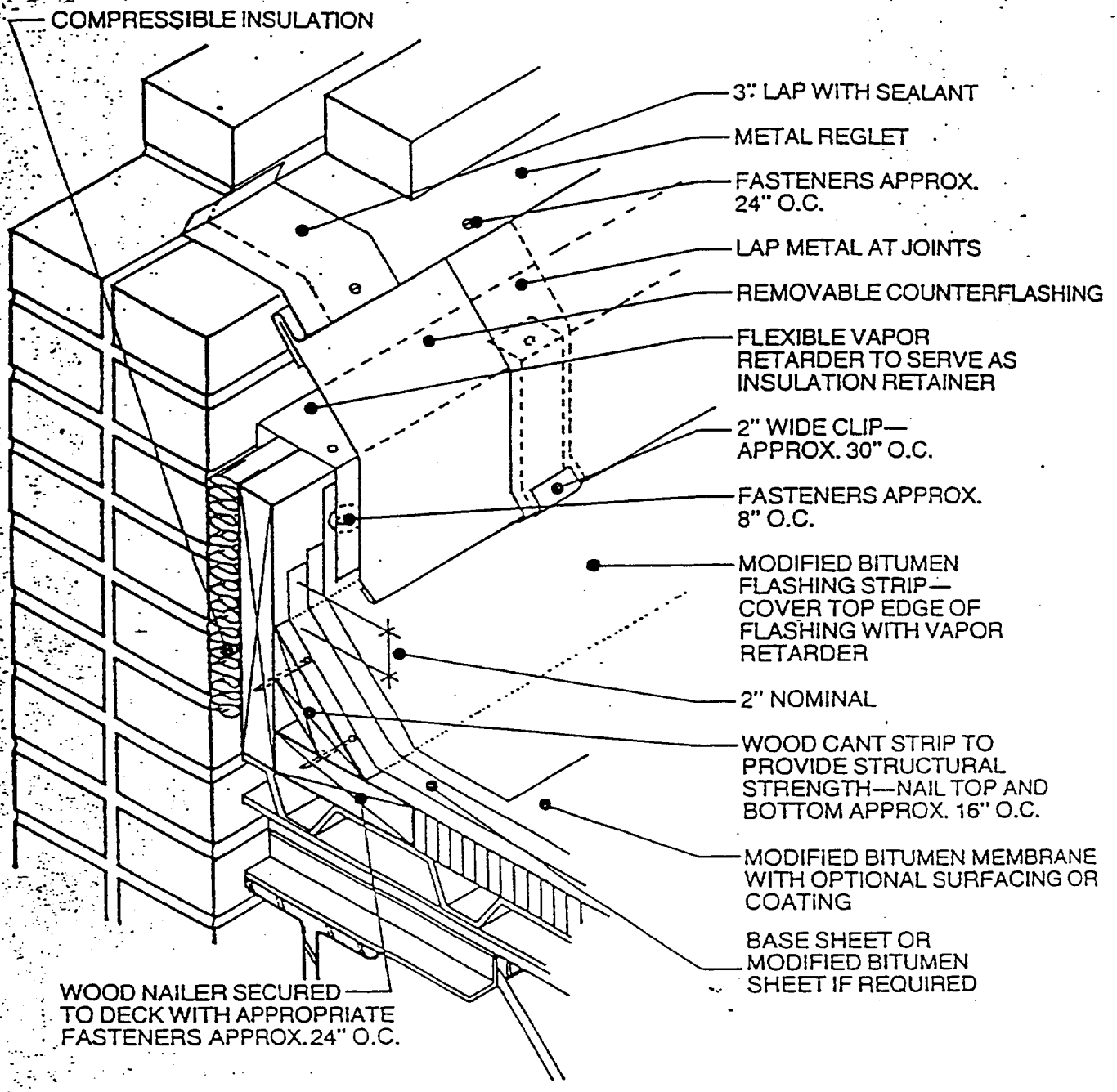
WOOD BLOCKING MAY BE SLOTTED FOR VENTING WHERE REQUIRED.

MODIFIED BITUMEN

NATIONAL ROOFING CONTRACTORS ASSOCIATION

1985 D

BASE FLASHING FOR NON-WALL-SUPPORTED DECK



NOTES:

THIS DETAIL ALLOWS WALL AND DECK TO MOVE INDEPENDENTLY.

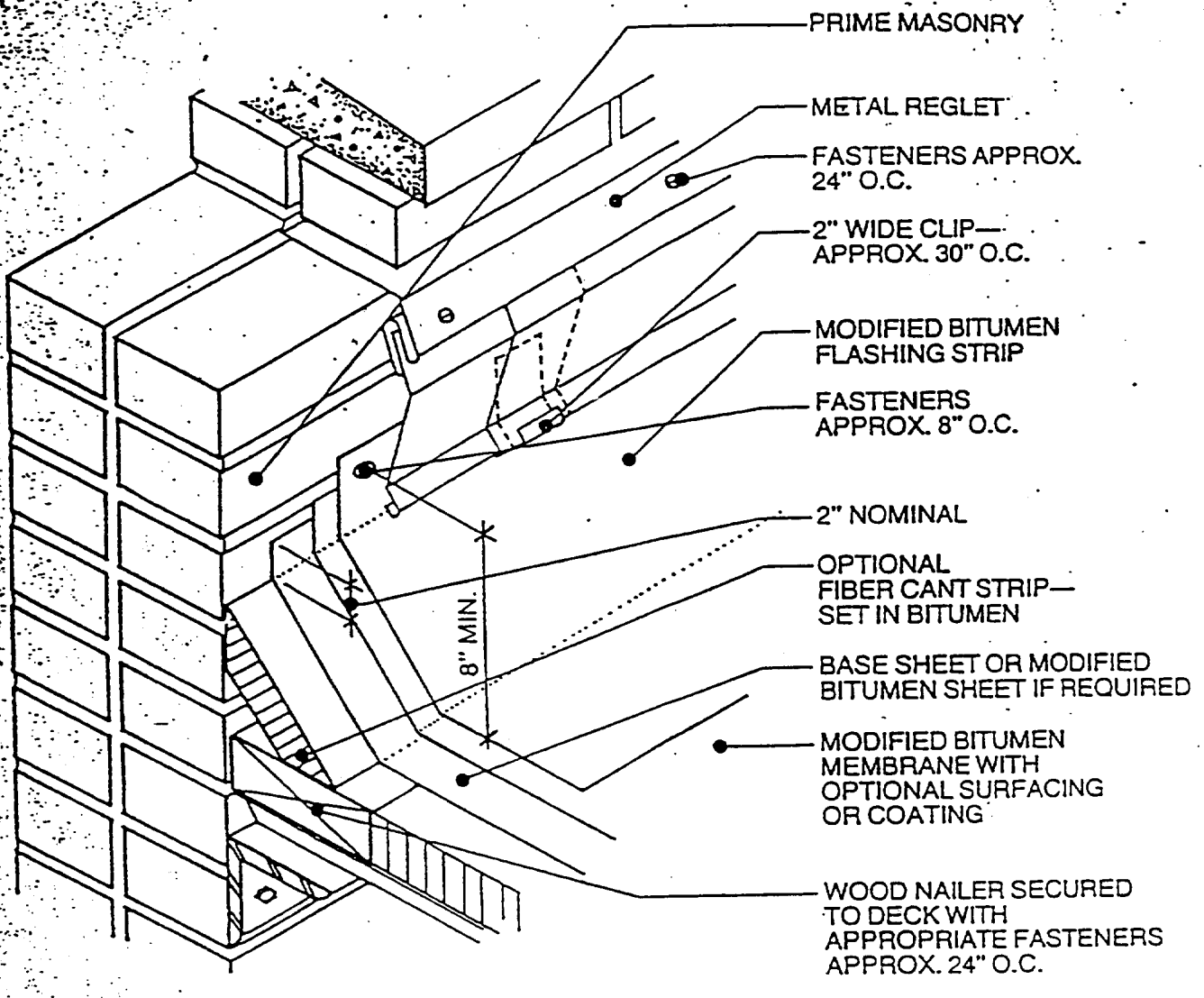
THIS DETAIL SHOULD BE USED WHERE THERE IS ANY POSSIBILITY THAT DIFFERENTIAL MOVEMENT WILL OCCUR BETWEEN THE DECK AND A VERTICAL SURFACE,SUCH AS AT A PENTHOUSE WALL. THE VERTICAL WOOD MEMBER SHOULD BE FASTENED TO THE DECK ONLY. THIS IS ONE SATISFACTORY METHOD OF JOINING THE TWO PIECE FLASHING SYSTEM. OTHER METHODS MAY BE USED.

MODIFIED BITUMEN

NATIONAL ROOFING CONTRACTORS ASSOCIATION

1985 E

BASE FLASHING FOR WALL-SUPPORTED DECK



NOTES:

THIS DETAIL SHOULD BE USED ONLY WHERE THE DECK IS SUPPORTED BY THE WALL.

THIS DETAIL IS SIMILAR TO DETAIL E. THE JOINTS IN THE TWO PIECES OF FLASHING SHOULD NOT BE SOLDERED. BREAKS IN SOLDERED JOINTS COULD CHANNEL WATER BEHIND THE FLASHING. CLIPS AT THE BOTTOM OF THE FLASHING ARE NOT NECESSARY ON FLASHINGS OF 6" OR LESS.

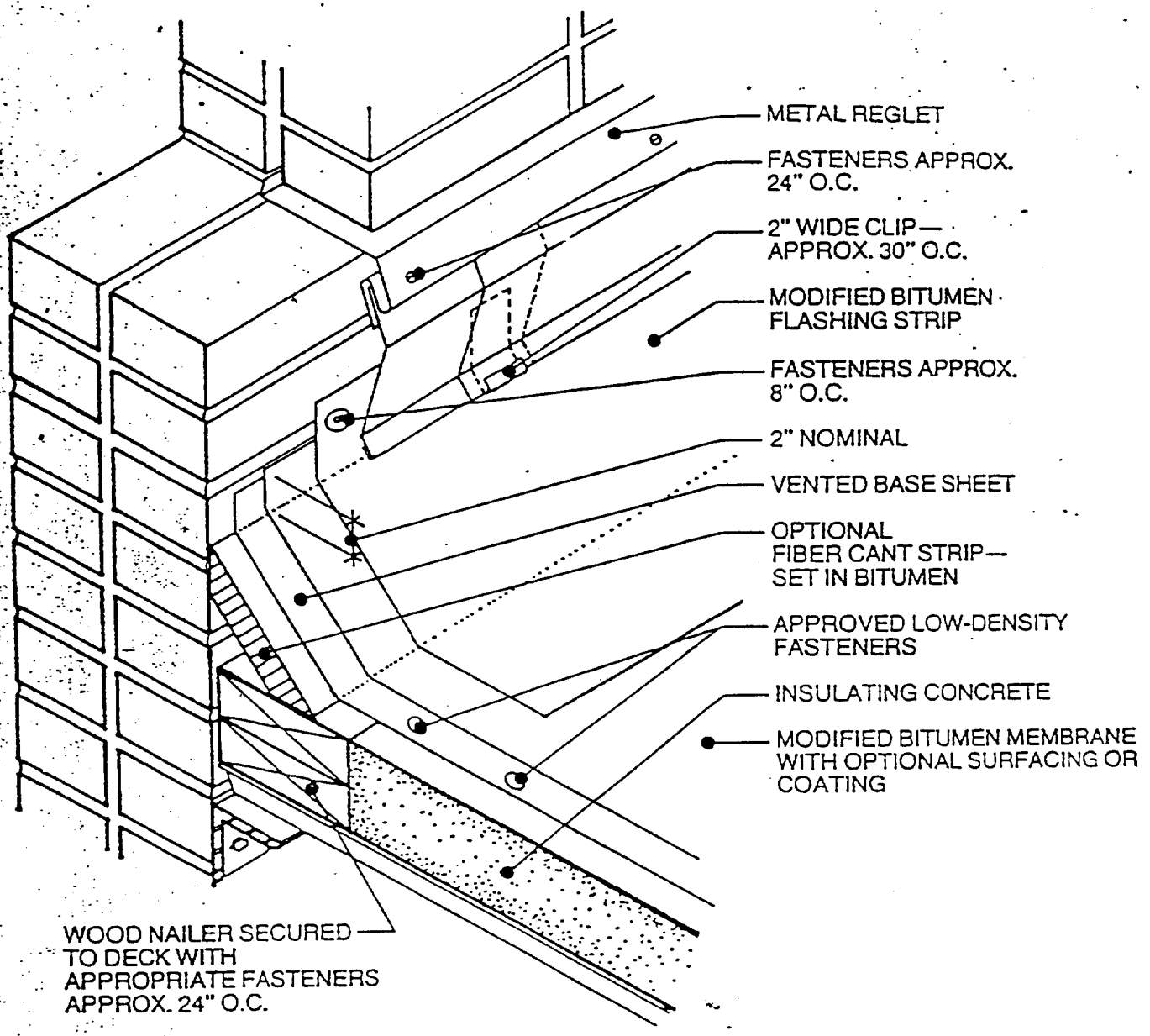
SEE DETAIL E FOR THE PREFERRED CONSTRUCTION.

MODIFIED BITUMEN

NATIONAL ROOFING CONTRACTORS ASSOCIATION

1985 F

BASE FLASHING FOR VENTED BASE SHEET



NOTES:

THIS DETAIL TO BE USED OVER WET-FILL DECKS OR WHEN REROOFING OVER EXISTING INSULATION.

CARE SHOULD BE USED NOT TO SEAL THE BASE SHEET TO THE PARAPET.

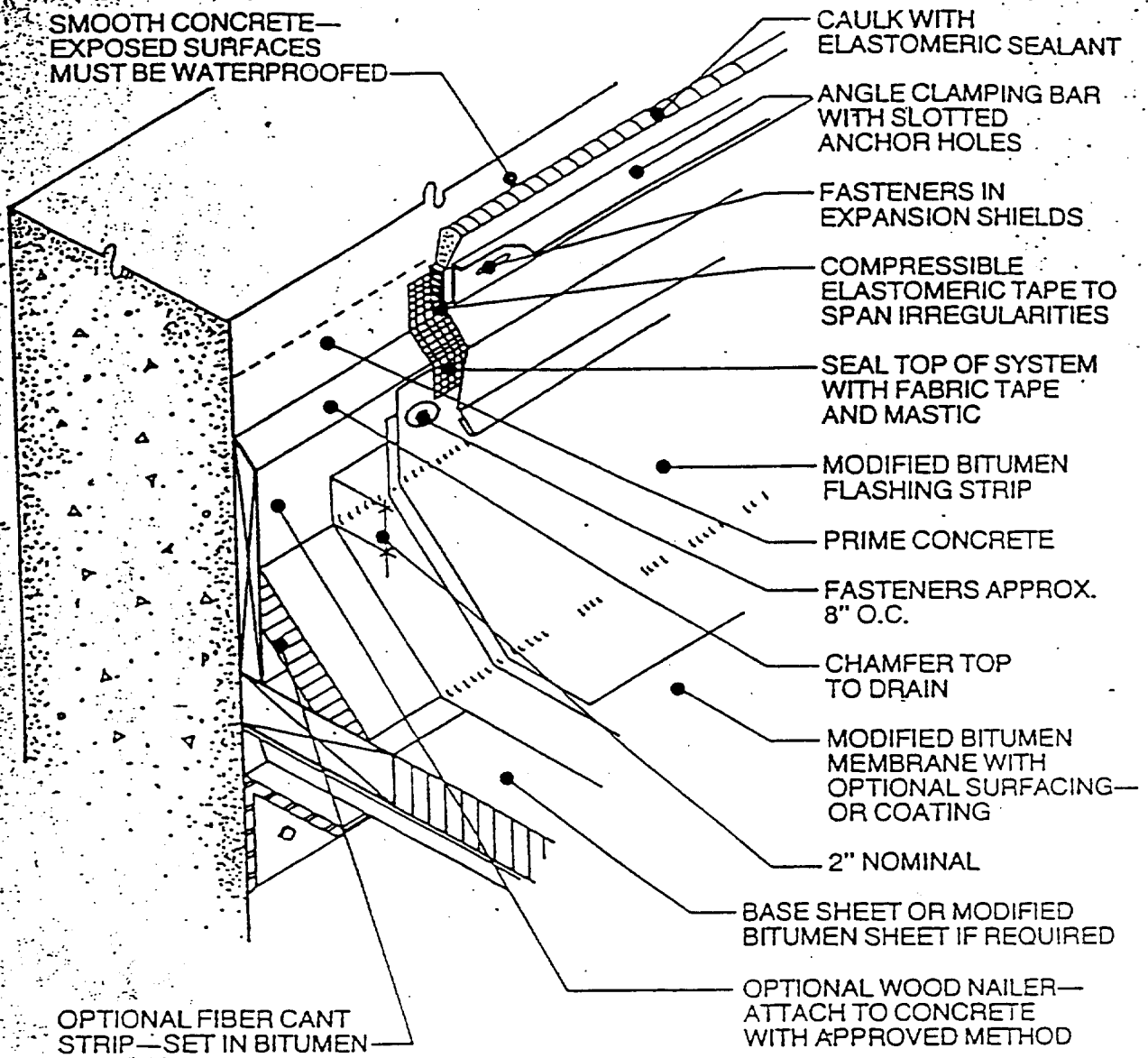
SEE DETAIL E FOR THE PREFERRED CONSTRUCTION.

MODIFIED BITUMEN

NATIONAL ROOFING CONTRACTORS ASSOCIATION

1985 G

COUNTERFLASHING FOR CONCRETE WALLS OR PARAPETS



NOTE:

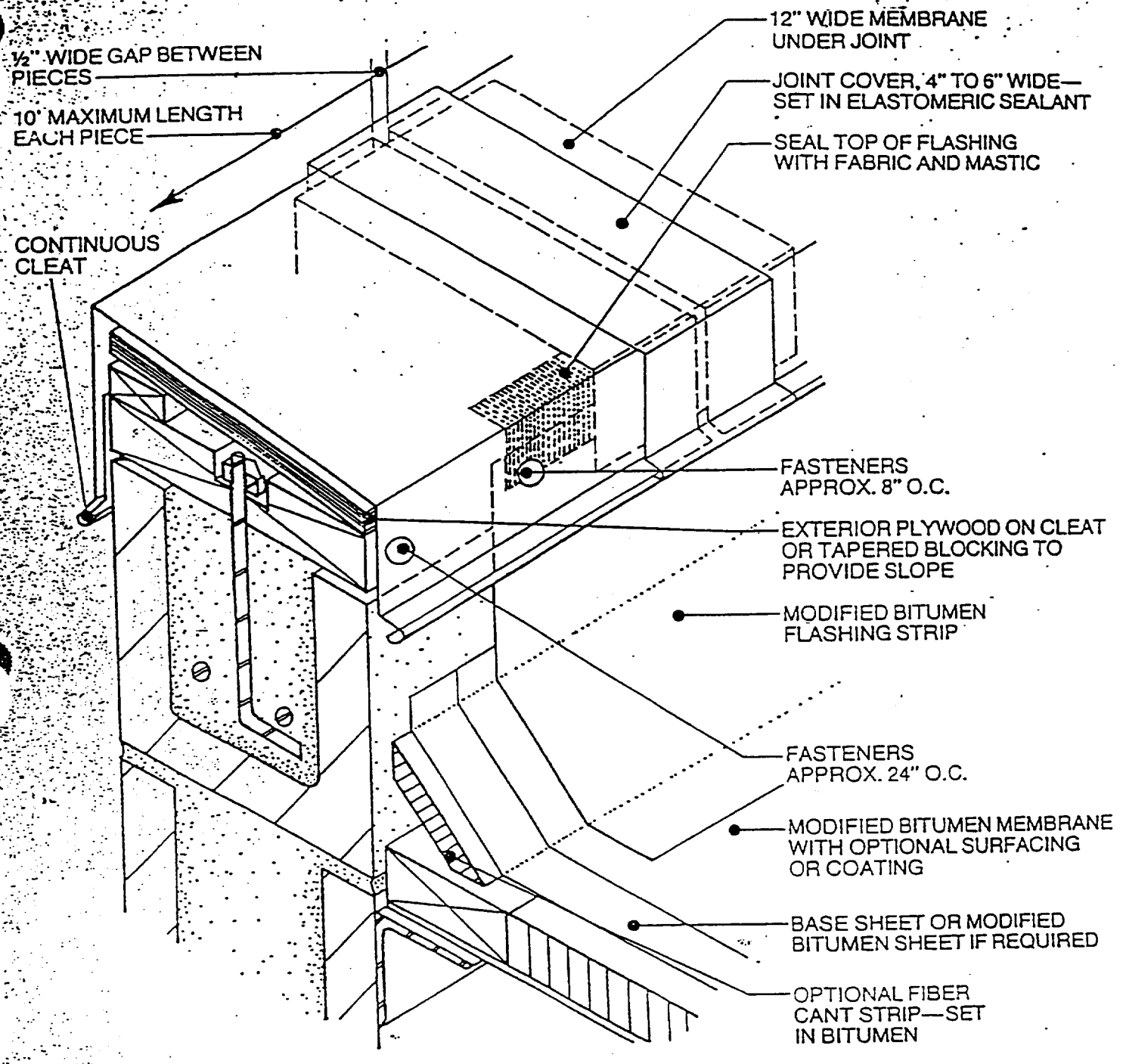
WHERE DECK IS SUPPORTED BY AND FASTENED TO THE CONCRETE WALL, VERTICAL WOOD NAILERS SHOULD BE SECURED TO THE WALL WITH SUITABLE FASTENERS.

MODIFIED BITUMEN

NATIONAL ROOFING CONTRACTORS ASSOCIATION

1985 H

LIGHT-METAL PARAPET CAP



NOTE:

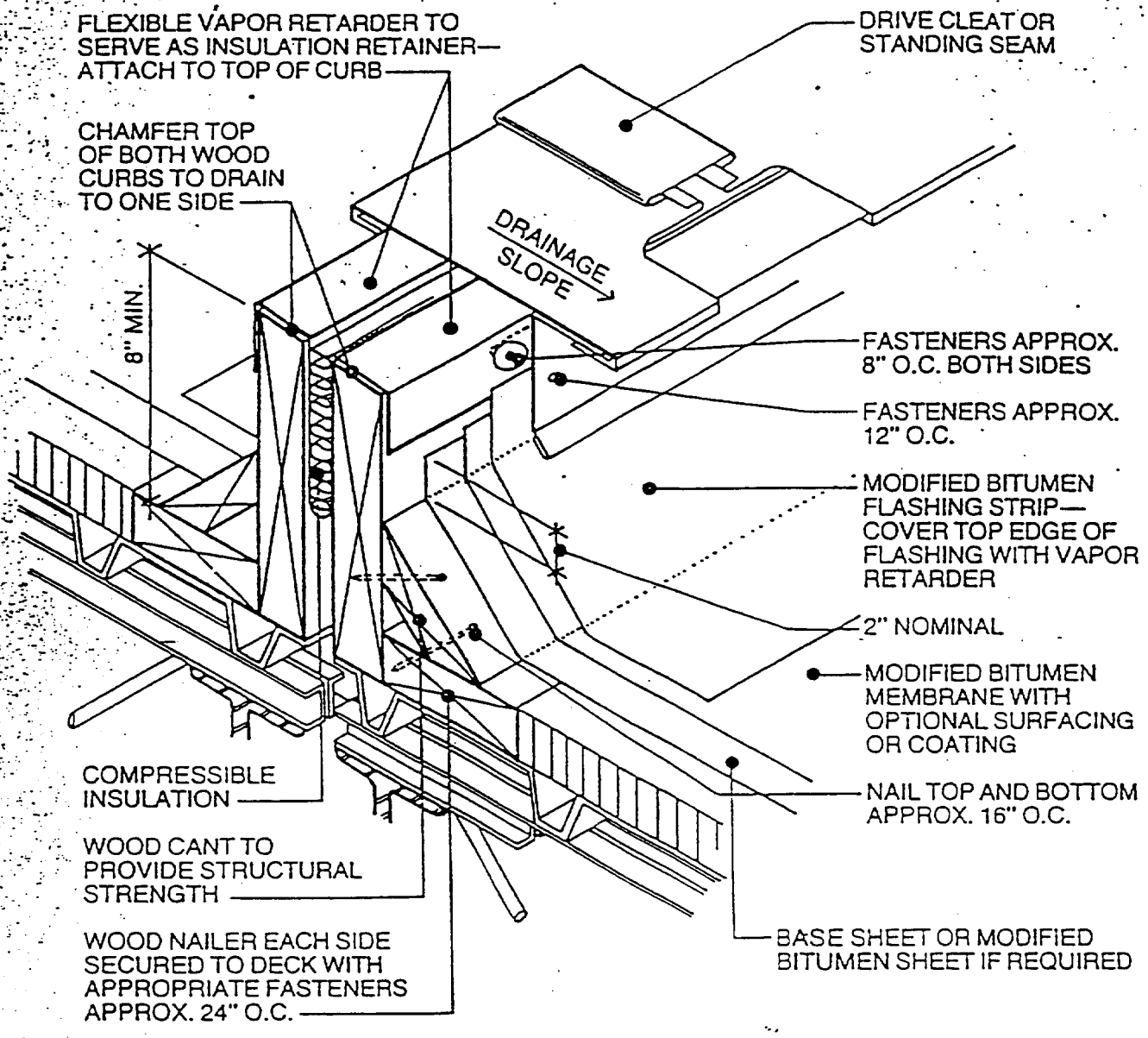
THIS DETAIL SHOULD BE USED ONLY WHERE THE DECK IS SUPPORTED BY THE WALL. AN EXPANSION JOINT DETAIL SIMILAR TO DETAIL E SHOULD BE USED FOR NON-WALL SUPPORTED DECK.

MODIFIED BITUMEN

NATIONAL ROOFING CONTRACTORS ASSOCIATION

1985 J

EXPANSION JOINT



NOTE:

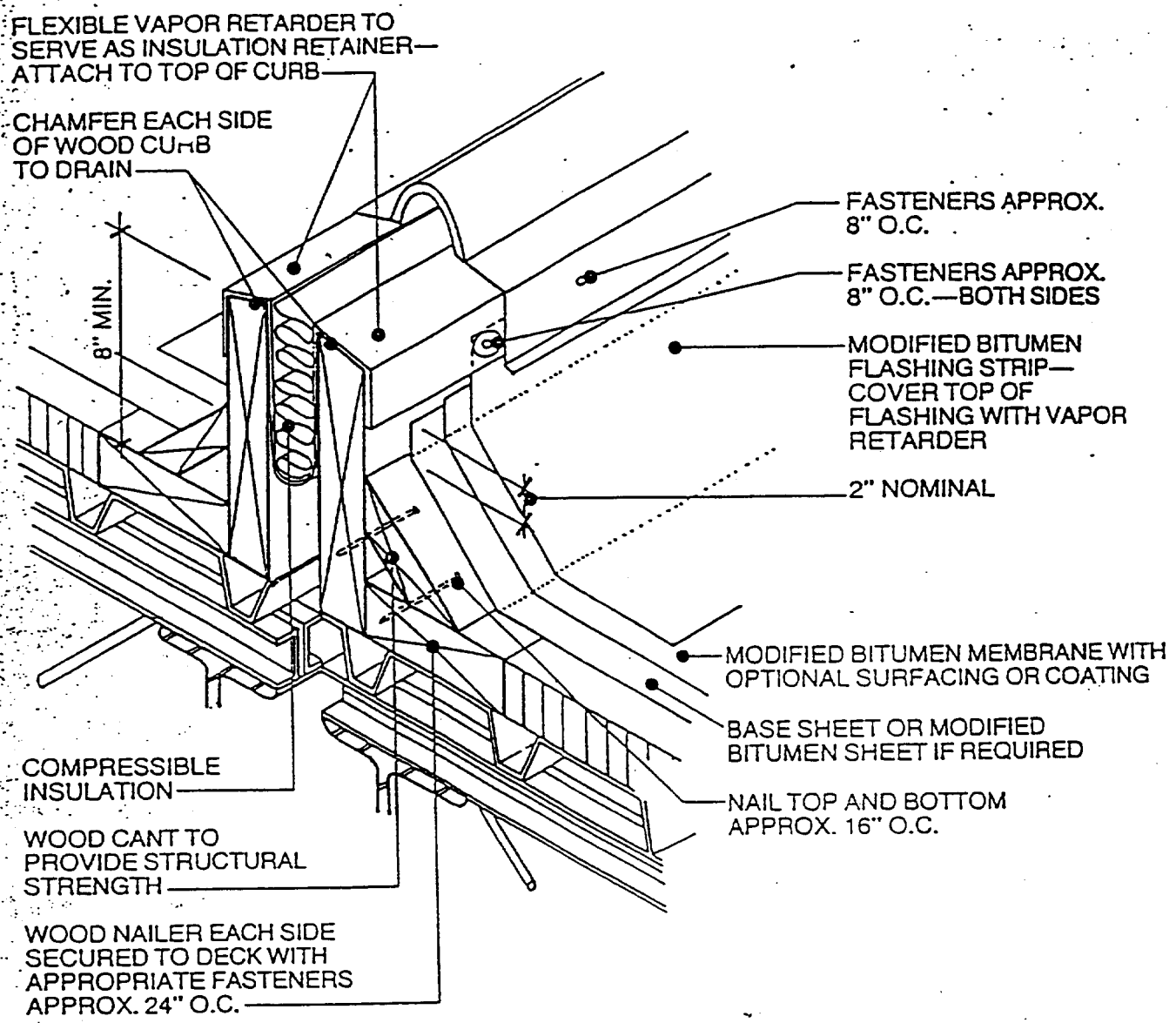
THIS DETAIL ALLOWS FOR BUILDING MOVEMENT IN BOTH DIRECTIONS.

MODIFIED BITUMEN

NATIONAL ROOFING CONTRACTORS ASSOCIATION

1985 K-1

EXPANSION JOINT

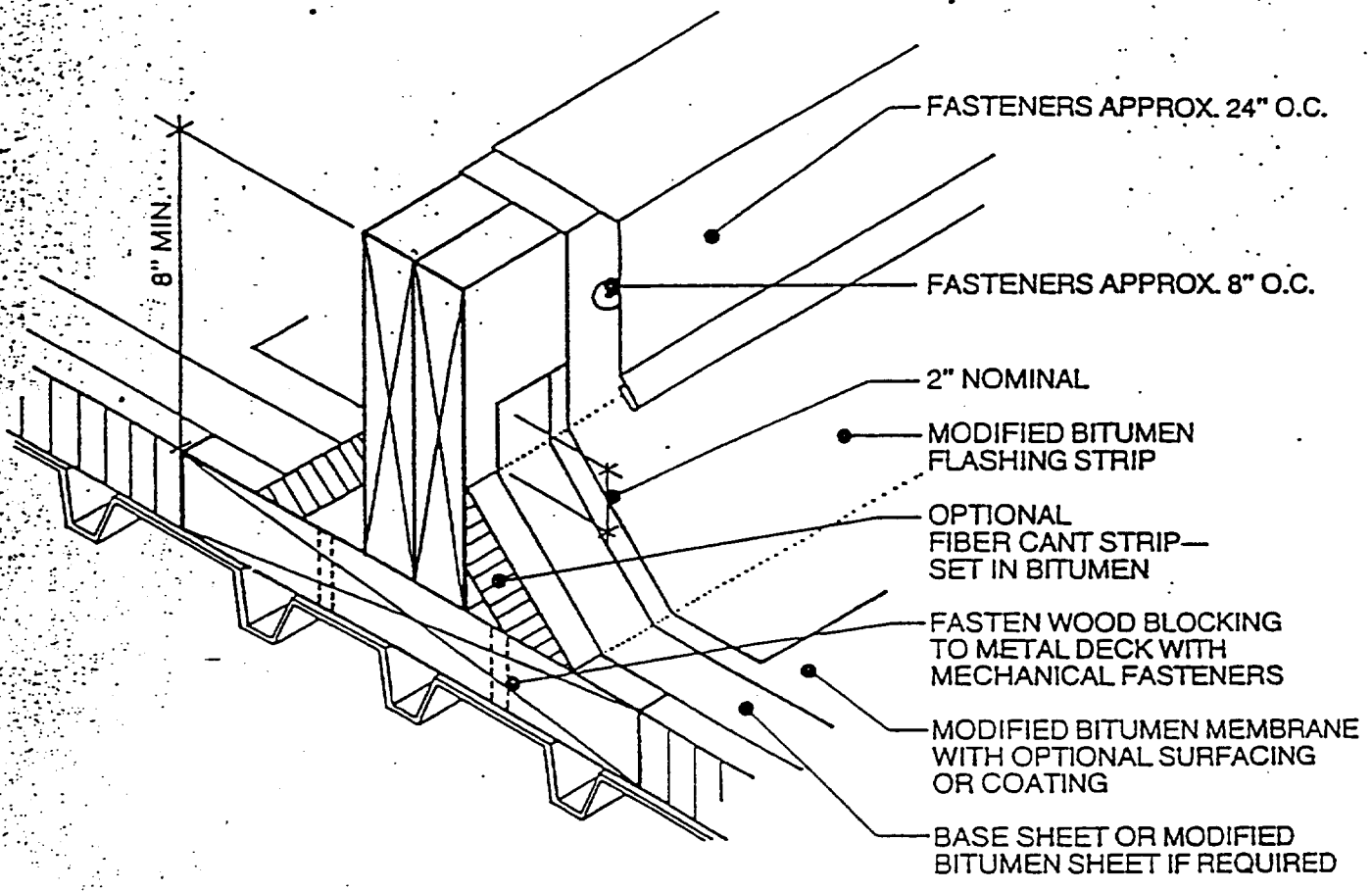


MODIFIED BITUMEN

NATIONAL ROOFING CONTRACTORS ASSOCIATION

1985 K-2

AREA DIVIDER



NOTE:

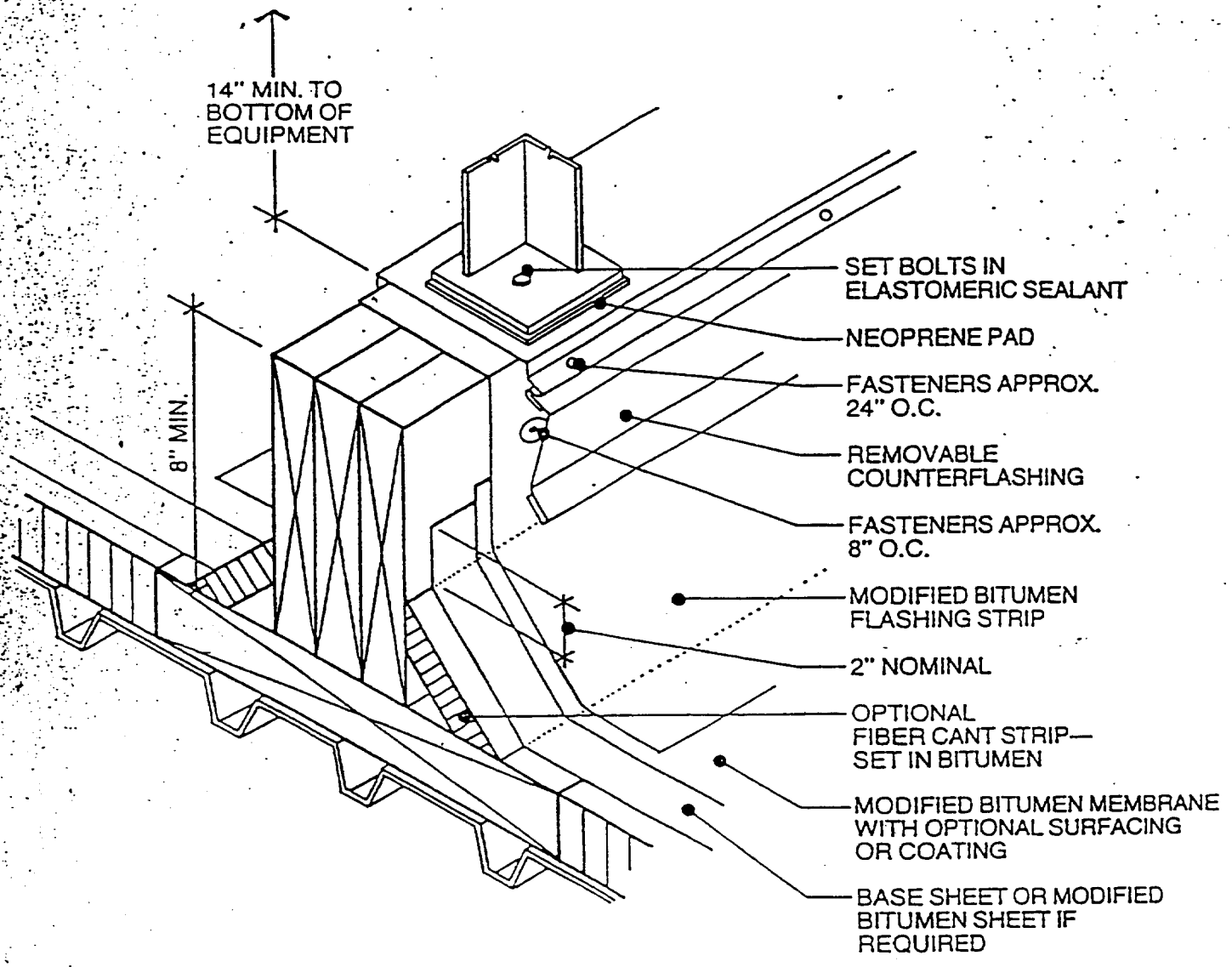
AN AREA DIVIDER IS DESIGNED SIMPLY AS A RAISED DOUBLE WOOD MEMBER ATTACHED TO A PROPERLY FLASHED WOOD BASE PLATE THAT IS ANCHORED TO THE ROOF DECK. AREA DIVIDERS SHOULD BE LOCATED BETWEEN THE ROOF'S EXPANSION JOINTS AT 100- TO 200-FOOT INTERVALS, DEPENDING UPON CLIMATIC CONDITIONS AND AREA PRACTICES. THEY SHOULD NEVER RESTRICT THE FLOW OF WATER.

MODIFIED BITUMEN

NATIONAL ROOFING CONTRACTORS ASSOCIATION

1985 L-1

EQUIPMENT OR SIGN SUPPORT



NOTE:

THIS DETAIL ALLOWS FOR ROOF MAINTENANCE AROUND THE EQUIPMENT SIGN. THE CONTINUOUS SUPPORT IS PREFERRED IN LIGHTWEIGHT ROOF SYSTEMS BECAUSE THE EQUIPMENT WEIGHT CAN BE SPREAD OVER MORE SUPPORTING MEMBERS. WHERE HEAVY STRUCTURAL SYSTEMS ARE USED OR WHERE THE LOAD CAN BE CONCENTRATED OVER A COLUMN, DETAIL M IS PREFERRED. CLEARANCE MUST BE PROVIDED FOR REMOVAL AND REPLACEMENT OF ROOFING AND FLASHING BETWEEN PARALLEL SUPPORTS.

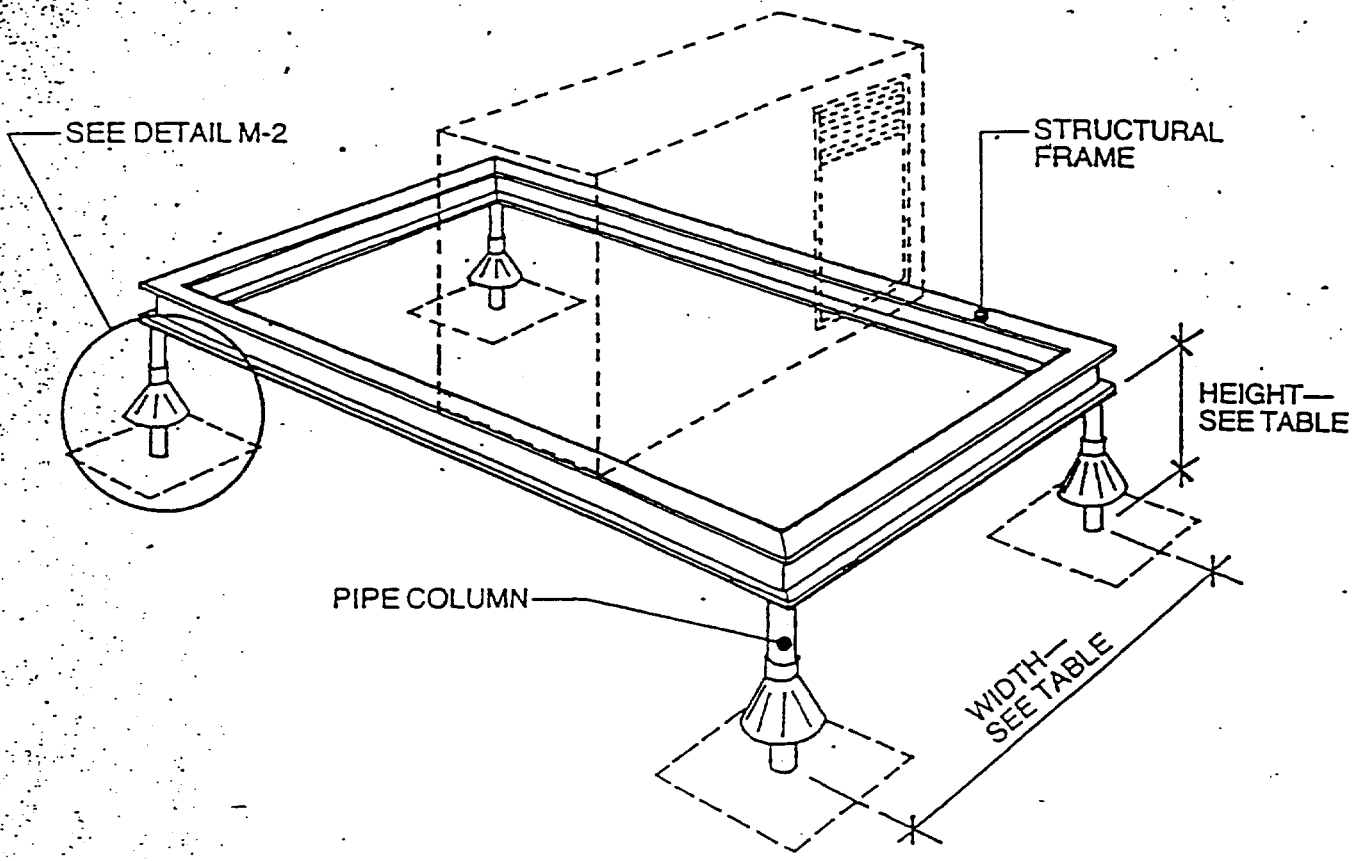
NATIONAL ROOFING CONTRACTORS ASSOCIATION

MODIFIED BITUMEN

NATIONAL ROOFING CONTRACTORS ASSOCIATION

1985 L-2

MECHANICAL EQUIPMENT STAND



WIDTH OF EQUIPMENT	HEIGHT OF LEGS
UP TO 24"	14"
25" TO 36"	18"
37" TO 48"	24"
49" TO 60"	30"
61" AND WIDER	48"

NOTE:

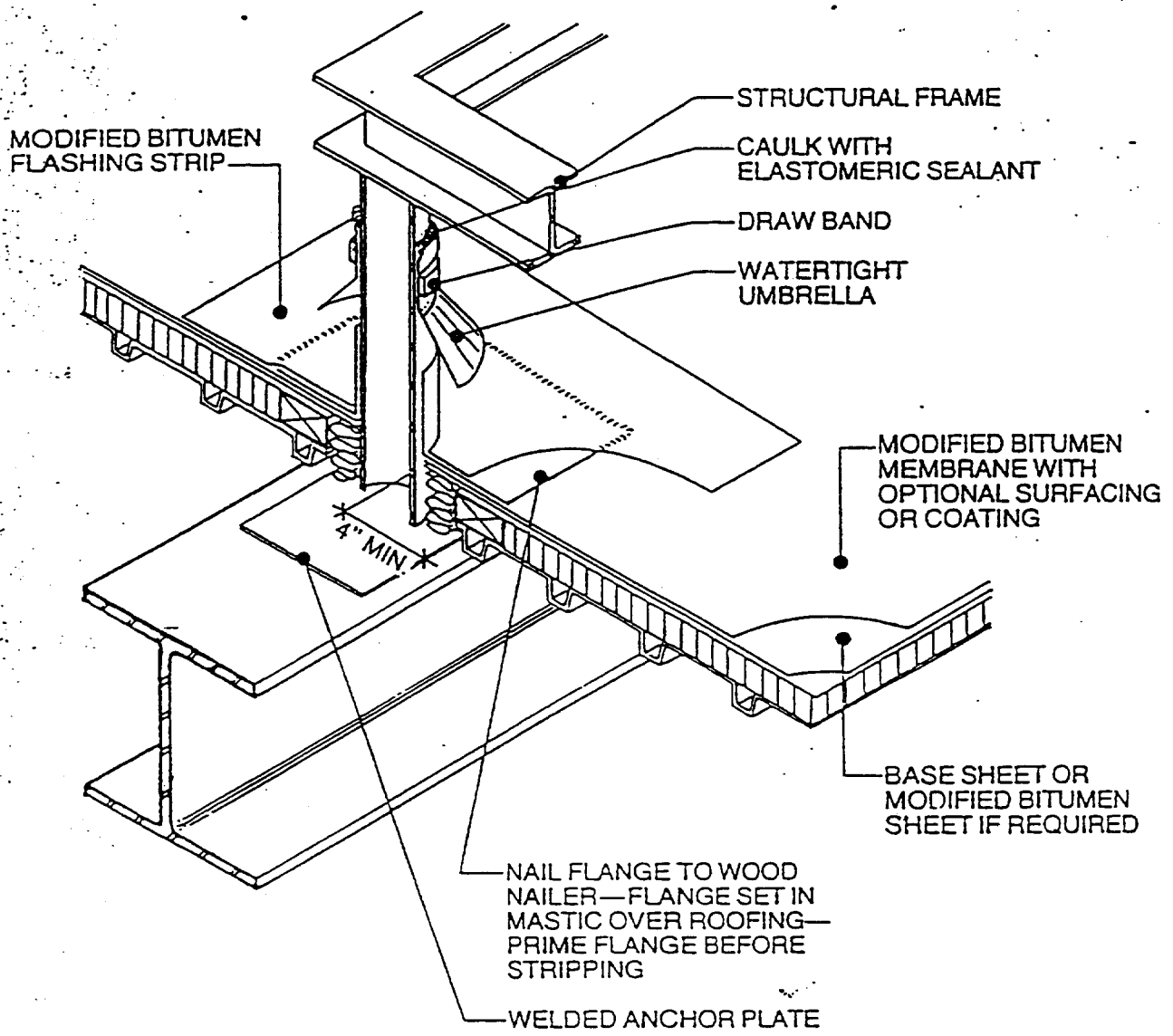
THIS DETAIL IS PREFERABLE TO DETAIL L WHEN THE CONCENTRATED LOAD CAN BE LOCATED DIRECTLY OVER COLUMNS OR HEAVY GIRDERS IN THE STRUCTURE OF THE BUILDING. THIS DETAIL CAN BE ADAPTED FOR OTHER USES, SUCH AS SIGN SUPPORTS.

MODIFIED BITUMEN

NATIONAL ROOFING CONTRACTORS ASSOCIATION

1985 M-1

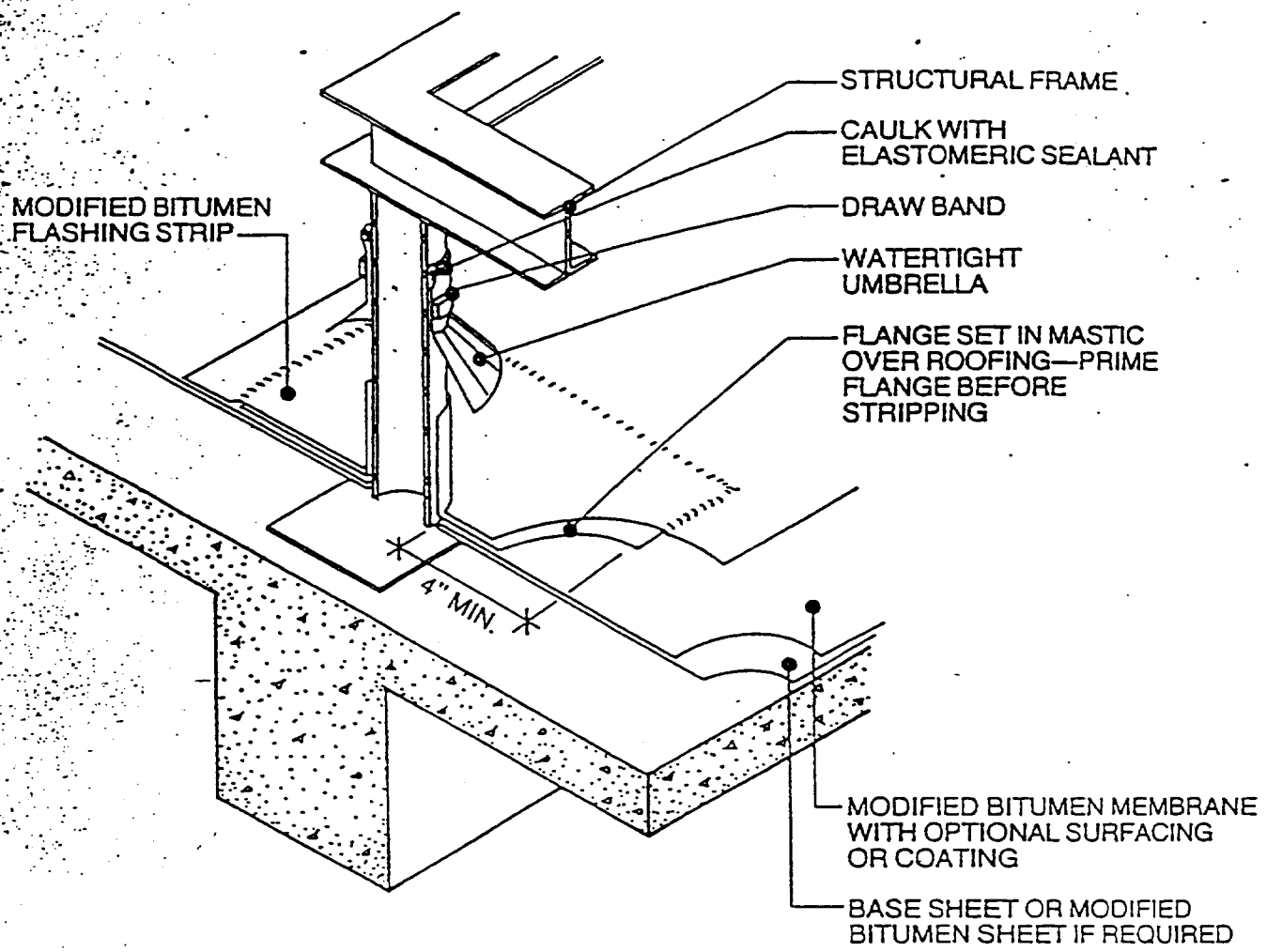
INSULATED DECK STEEL FRAME



MODIFIED BITUMEN

NATIONAL ROOFING CONTRACTORS ASSOCIATION

1985 M-2

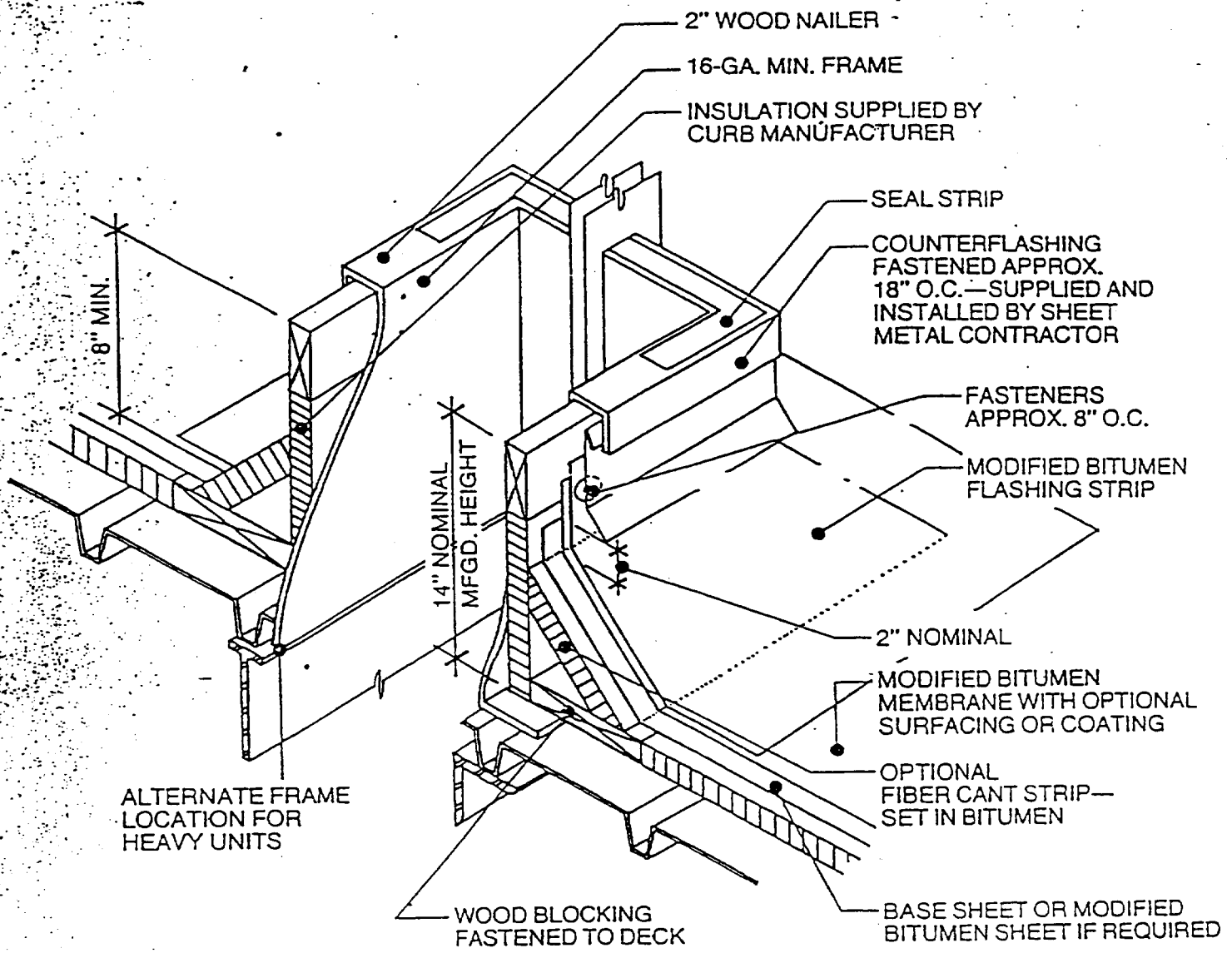


MODIFIED BITUMEN

NATIONAL ROOFING CONTRACTORS ASSOCIATION

1985 M-3

CURB DETAIL FOR ROOFTOP AIR HANDLING UNITS



NOTE:

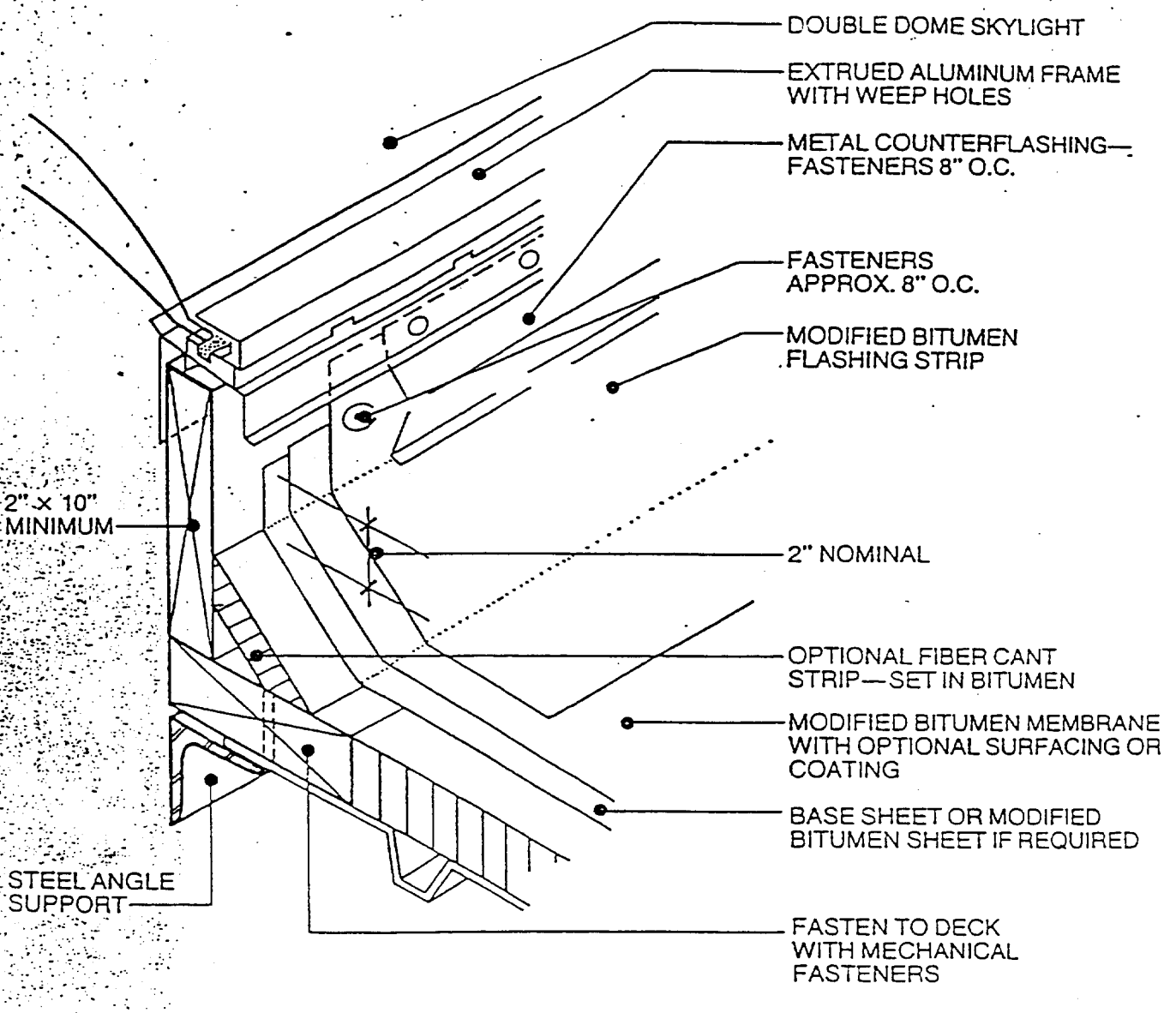
THE CURB, WOOD NAILER, INSULATION AND SEAL STRIP ARE TO BE SUPPLIED BY THE CURB MANUFACTURER. THE NOMINAL 14" CURB HEIGHT IS EFFECTIVE AS OF JAN. 1, 1981.

MODIFIED BITUMEN

NATIONAL ROOFING CONTRACTORS ASSOCIATION

1985 N

SKYLIGHT HATCH AND SMOKE VENT

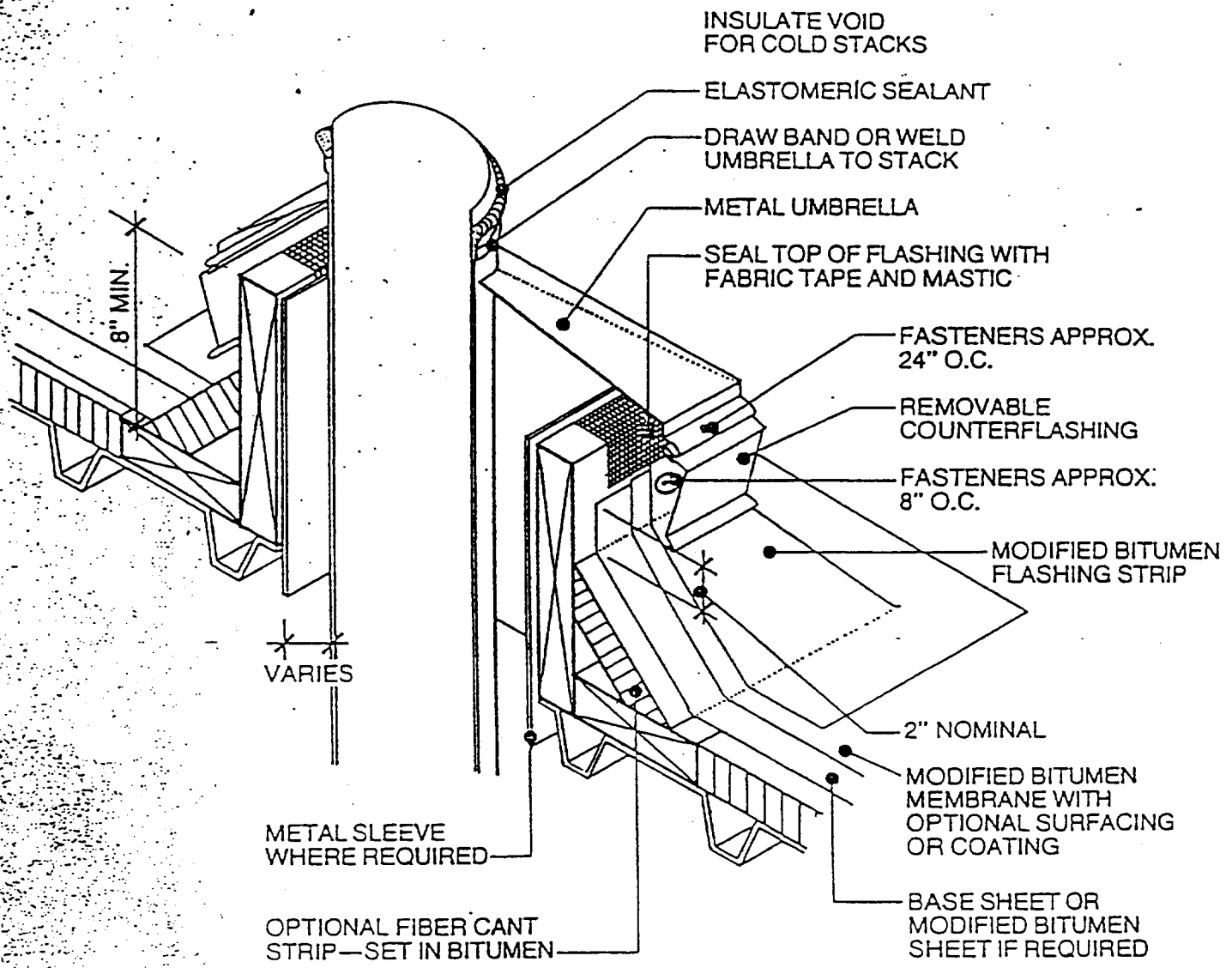


MODIFIED BITUMEN

NATIONAL ROOFING CONTRACTORS ASSOCIATION

1985 O

STACK FLASHING



NOTE:

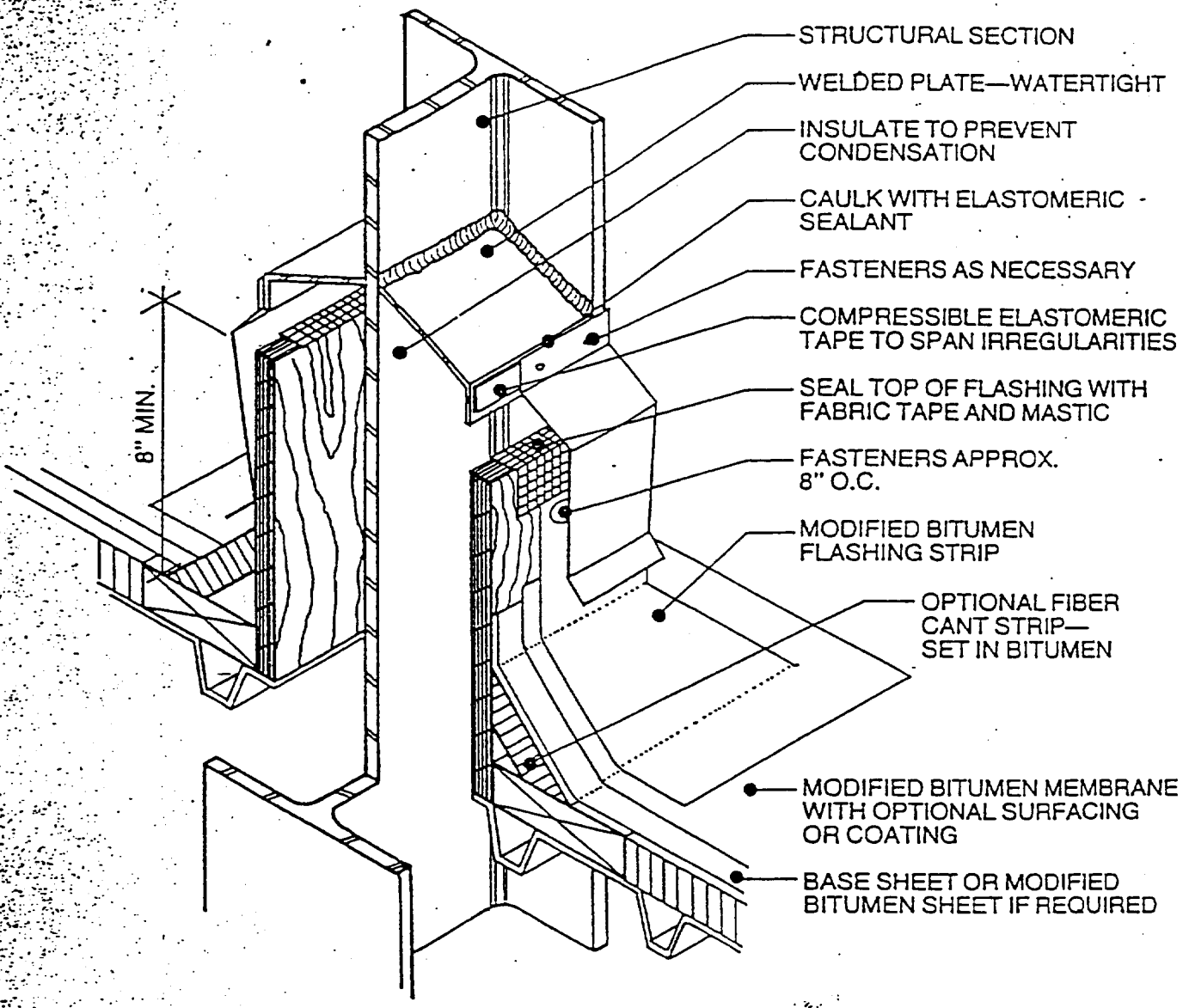
THIS DETAIL ALLOWS THE OPENING TO BE COMPLETED BEFORE THE STACK IS PLACED. THE METAL SLEEVE AND THE CLEARANCE NECESSARY WILL DEPEND ON THE TEMPERATURE OF THE MATERIAL HANDLED BY THE STACK.

MODIFIED BITUMEN

NATIONAL ROOFING CONTRACTORS ASSOCIATION

1985 P

FLASHING STRUCTURAL MEMBER THROUGH ROOF DECK



NOTE:

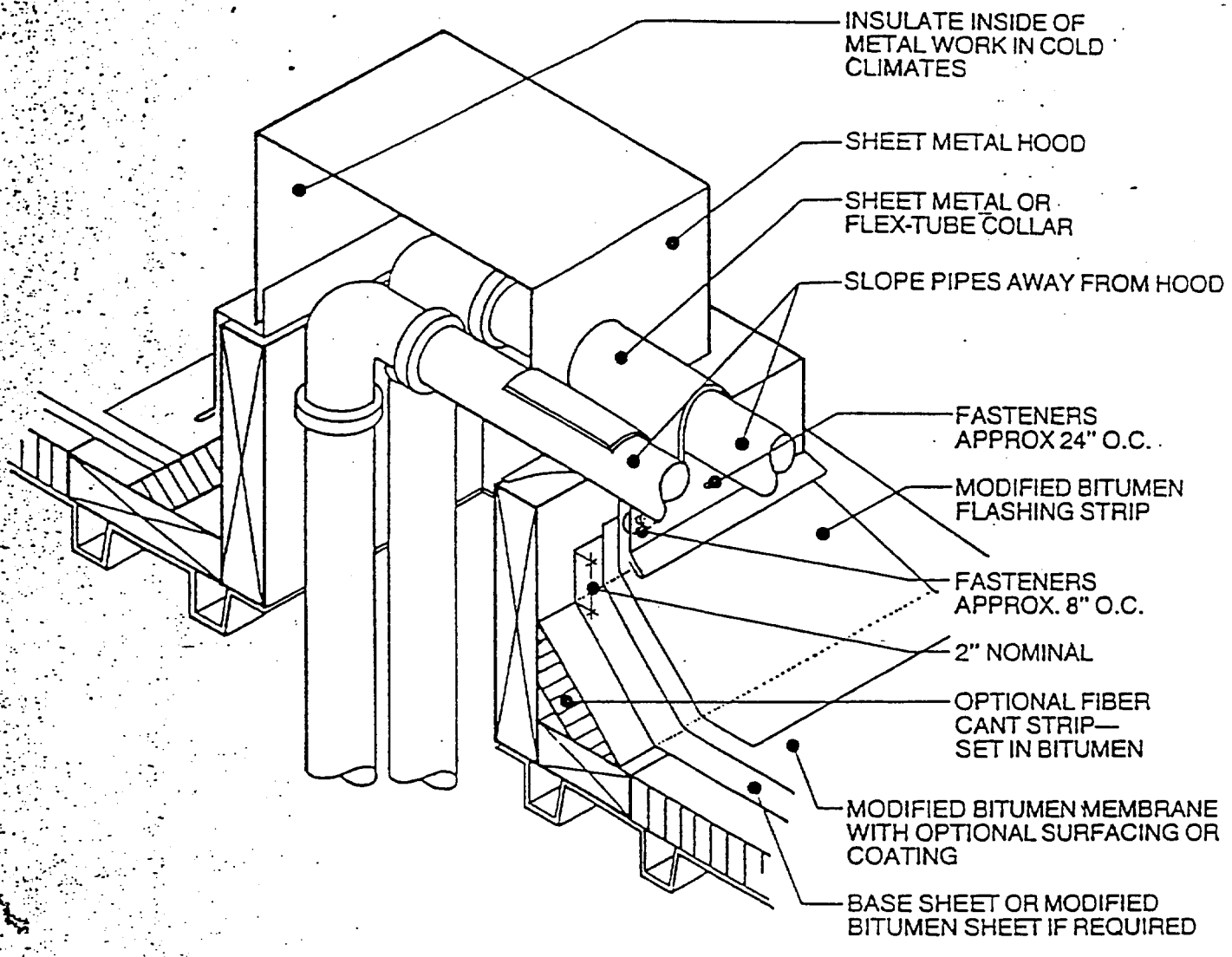
THIS DETAIL ILLUSTRATES ONE METHOD OF ELIMINATING PITCH POCKETS. THE CURBED SYSTEM ALLOWS FOR MOVEMENT IN THE STRUCTURAL MEMBER WITHOUT DISTURBING THE ROOF SYSTEM.

MODIFIED BITUMEN

NATIONAL ROOFING CONTRACTORS ASSOCIATION

1985 Q

PIPING THROUGH ROOF DECK



NOTE:

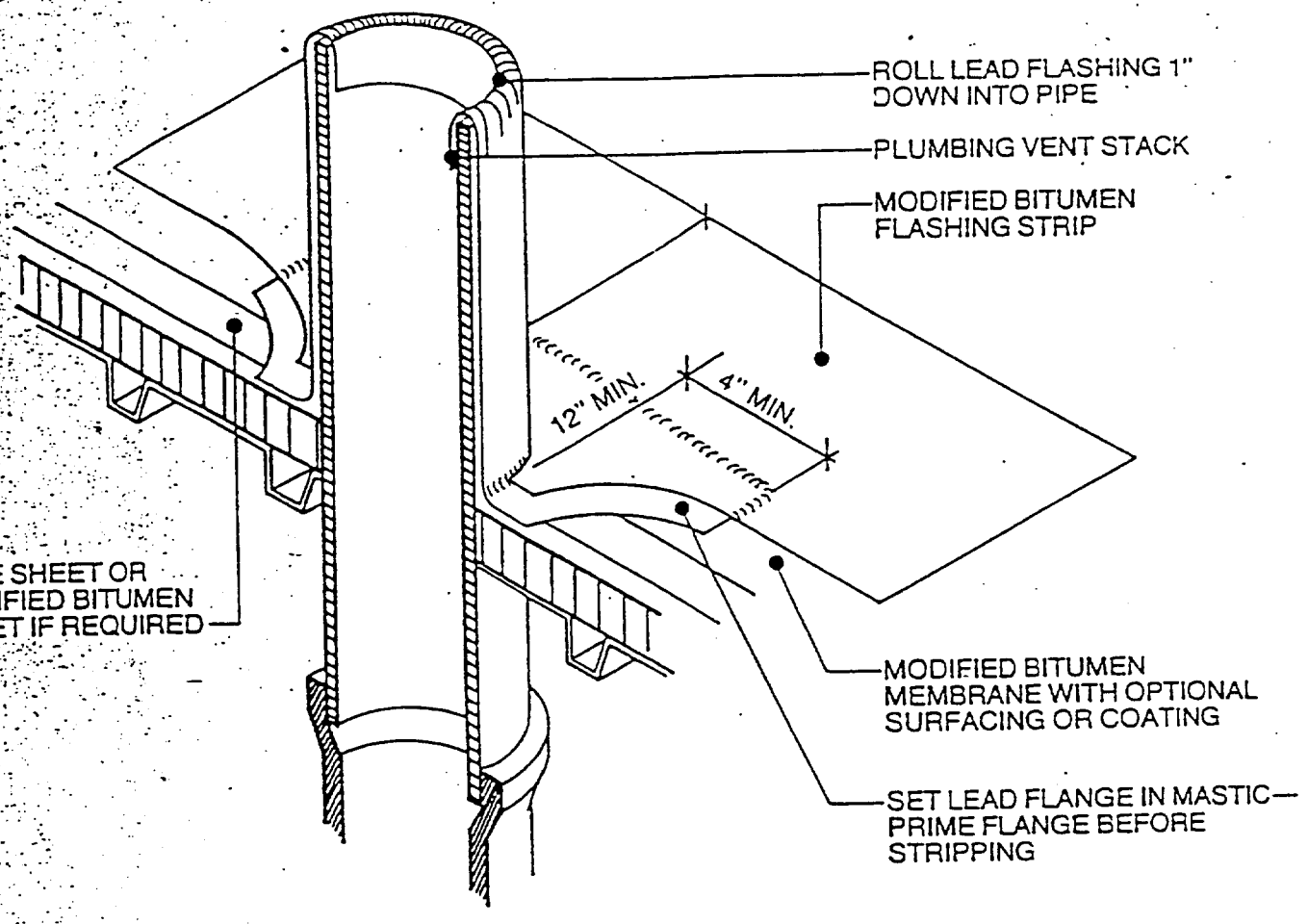
THIS DETAIL ILLUSTRATES ANOTHER METHOD OF ELIMINATING PITCH POCKETS AND A SATISFACTORY METHOD OF GROUPING PIPING THAT MUST COME UP ABOVE THE ROOF SURFACE.

MODIFIED BITUMEN

NATIONAL ROOFING CONTRACTORS ASSOCIATION

1985 R

PLUMBING VENT FLASHING



NOTE:

SHEET LEAD MINIMUM OF 2½ POUNDS PER ROOF SQUARE.

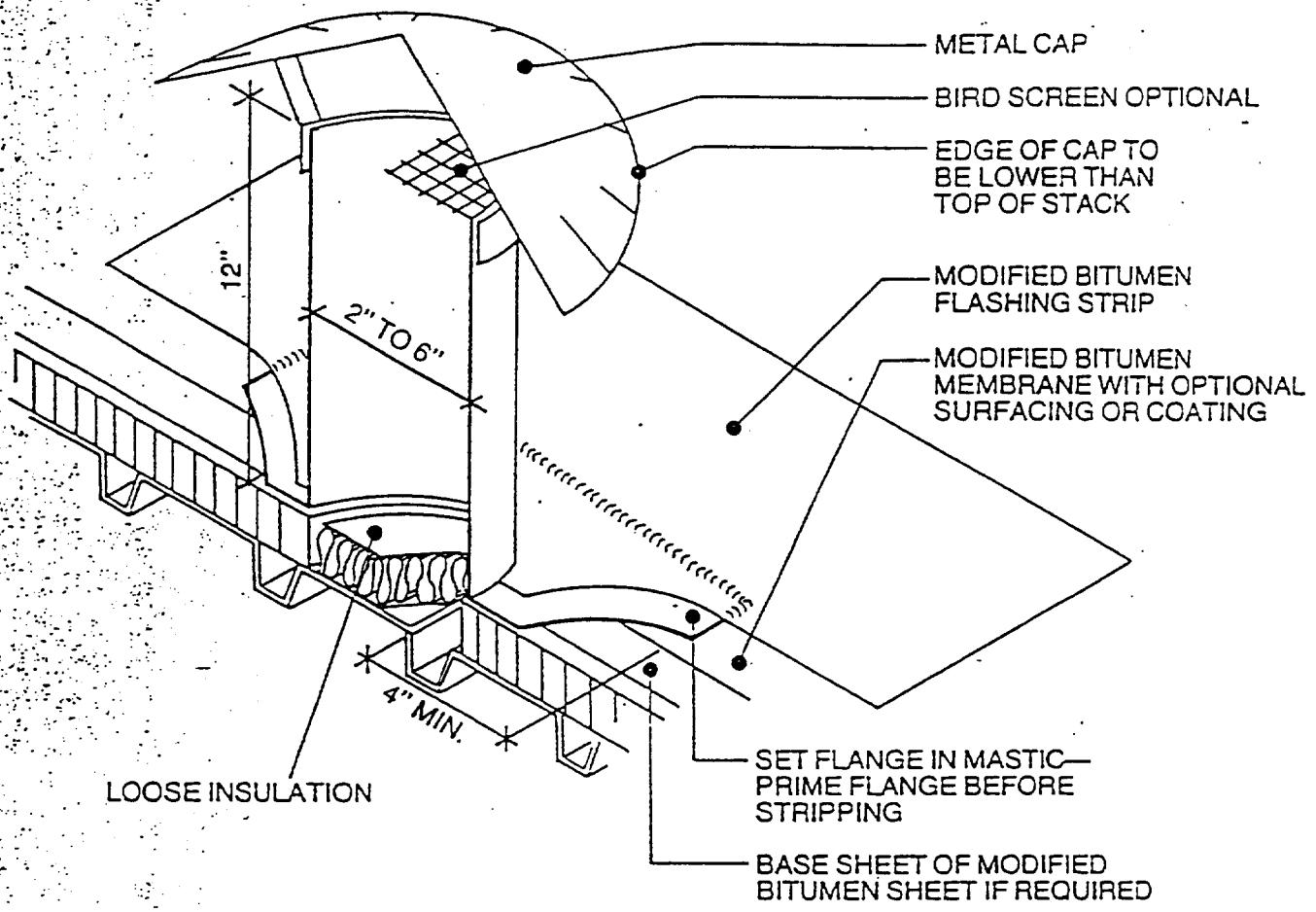
NATIONAL ROOFING CONTRACTORS

MODIFIED BITUMEN

NATIONAL ROOFING CONTRACTORS ASSOCIATION

1985 T

ROOF RELIEF VENT



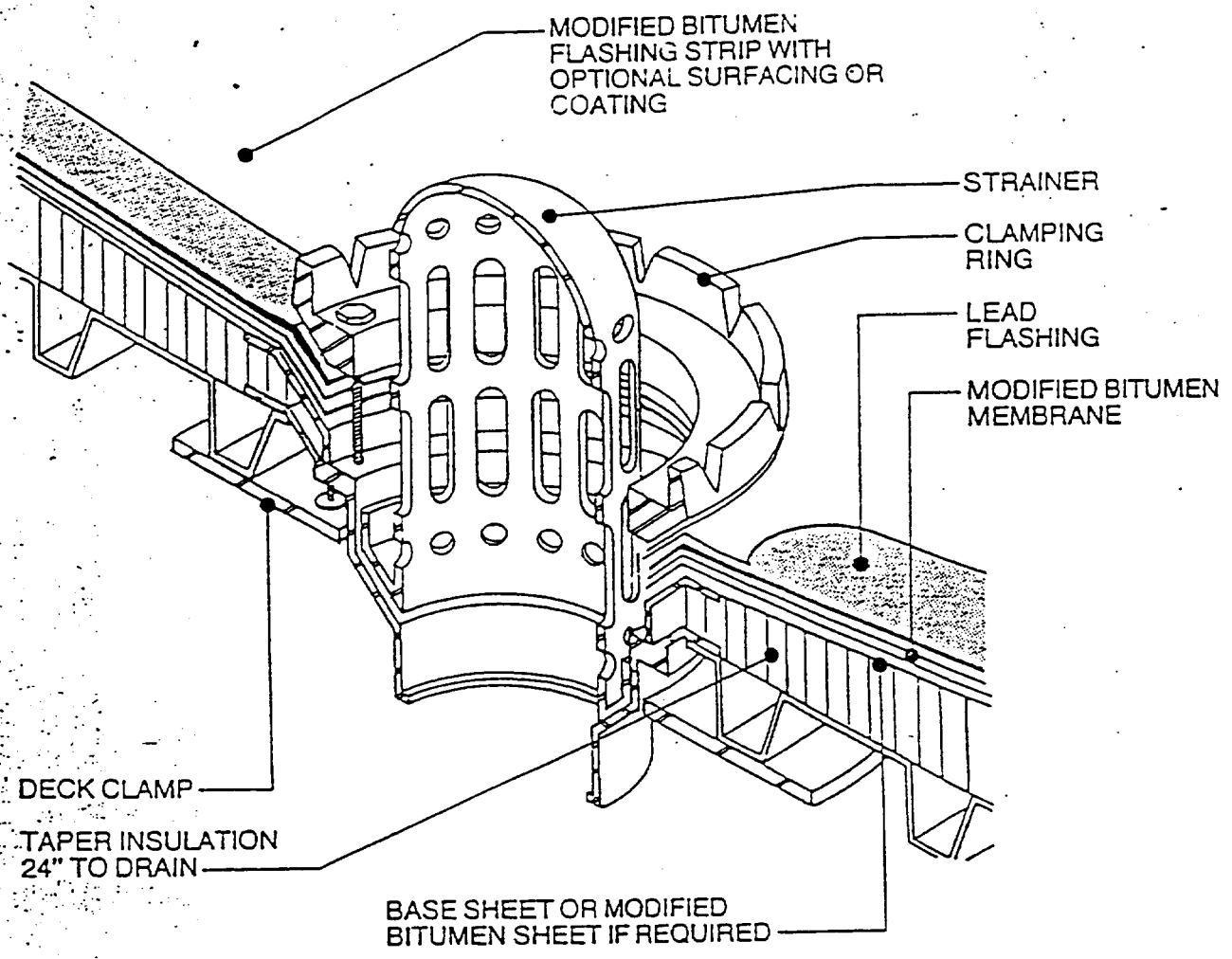
NOTE:

THIS DETAIL IS USED TO RELIEVE MOISTURE VAPOR PRESSURE FROM INSULATION. THE MOISTURE MAY HAVE ENTERED DUE TO LEAKS, FAULTY VAPOR RETARDERS OR DURING CONSTRUCTION. THE SPACING OF RELIEF VENTS IS DETERMINED BY THE TYPE OF INSULATION USED AND THE AMOUNT OF MOISTURE TO BE RELIEVED. THIS DETAIL IS SOMETIMES USED FOR NEW ROOFS WHEN VAPOR RETARDERS ARE USED AND A VENTING SYSTEM IS DESIRED.

MODIFIED BITUMEN

NATIONAL ROOFING CONTRACTORS ASSOCIATION

1985 V



NOTES:

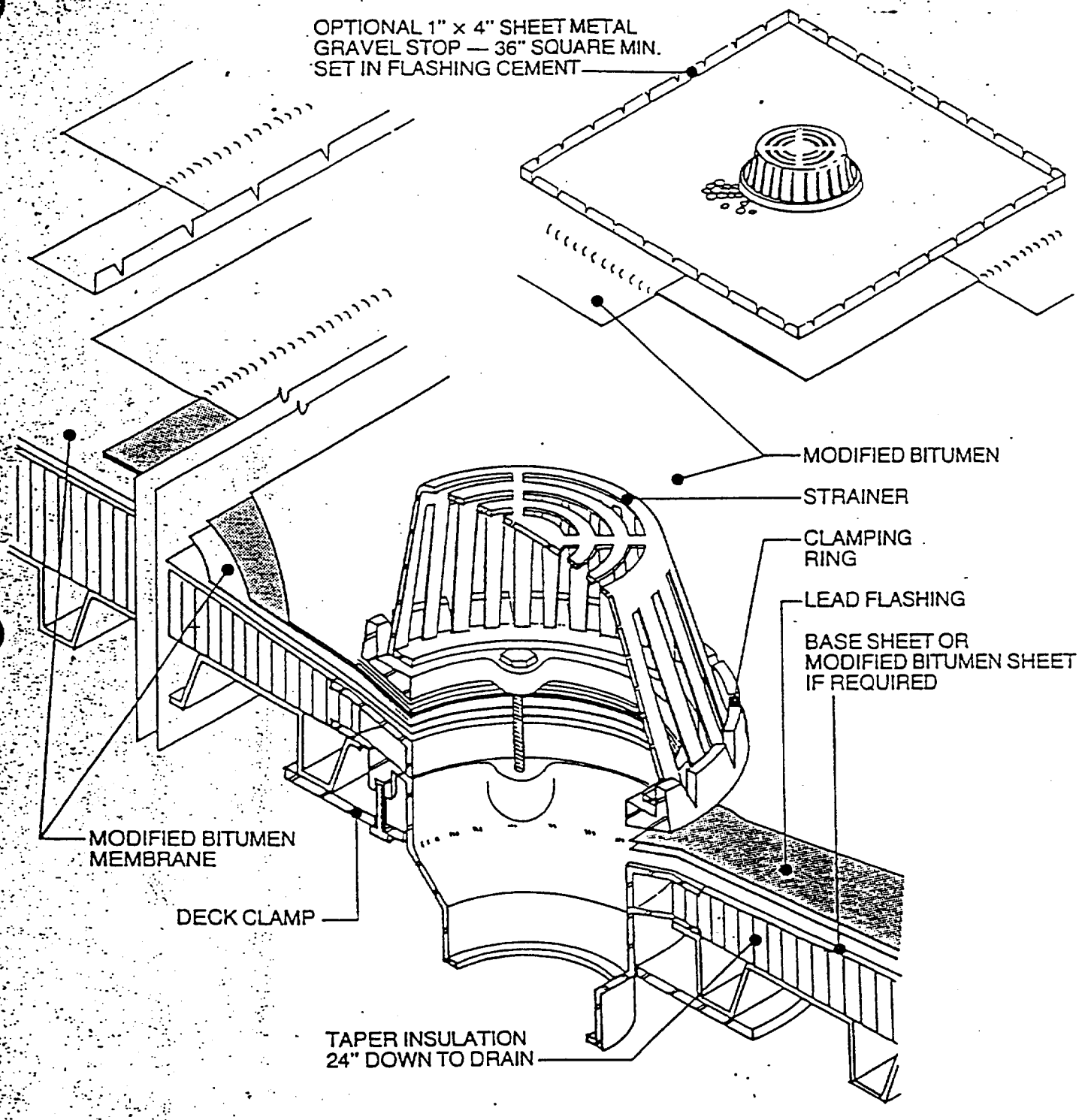
MIN. 30" SQUARE, 2½-LB. TO 4-LB. LEAD FLASHING, SET ON MODIFIED BITUMEN MEMBRANE IN MASTIC PRIME TOP SURFACE BEFORE STRIPPING.

MEMBRANE PLIES, METAL FLASHING, AND FLASH-IN PLIES EXTEND UNDER CLAMPING RING, STRIPPING MEMBRANE EXTENDS 4" BEYOND EDGE OF FLASHING SHEET, BUT NOT BEYOND EDGE OF SUMP.

MODIFIED BITUMEN

NATIONAL ROOFING CONTRACTORS ASSOCIATION

1985 W-1



NOTES:

MIN. 30" SQUARE, 2½-LB. TO 4-LB. LEAD FLASHING, SET ON MODIFIED BITUMEN MEMBRANE IN MASTIC. PRIME TOP SURFACE BEFORE STRIPPING.

MEMBRANE PLIES, METAL FLASHING, AND FLASH-IN PLIES EXTEND UNDER CLAMPING RING.

STRIPPING MEMBRANE EXTENDS 4" BEYOND EDGE OF FLASHING SHEET, BUT NOT BEYOND EDGE OF SUMP.

MODIFIED BITUMEN

NATIONAL ROOFING CONTRACTORS ASSOCIATION

1985 W-2

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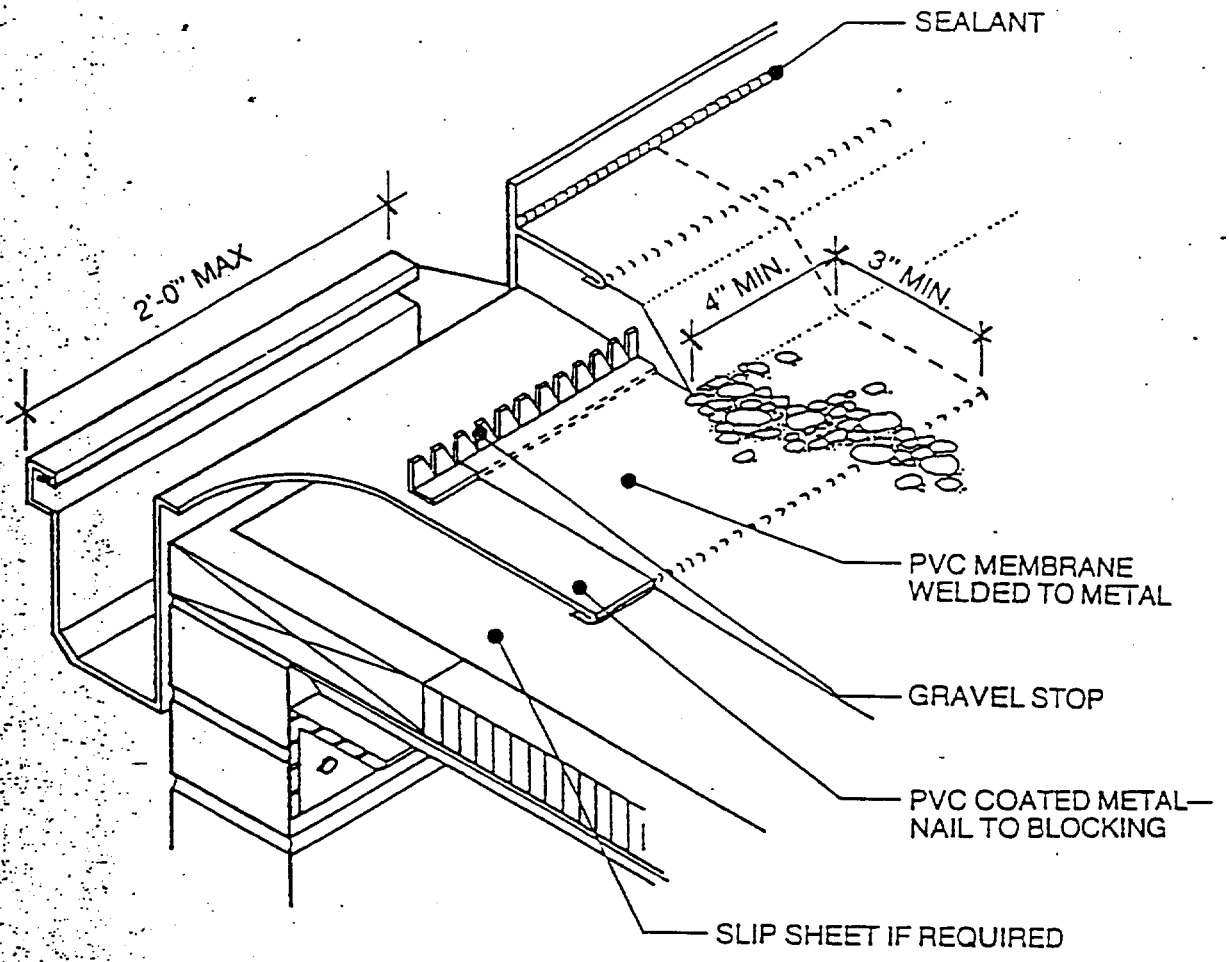
SCUPPER THROUGH ROOF EDGE



NOTES:

THIS DETAIL SHOULD BE USED ONLY WHERE THE DECK IS SUPPORTED BY THE OUTSIDE WALL.

THIS DETAIL CAN BE ADAPTED TO ROOF EDGES SHOWN IN DETAIL D, AND IS EASY TO INSTALL AFTER THE BUILDING IS COMPLETED. THIS DETAIL IS USED TO RELIEVE STANDING WATER IN AREAS ALONG THE ROOF EDGE. ALL ROOF SURFACES SHOULD BE SLOPED TO DRAIN.

ATTACH NAILER TO MASONRY WALL. REFER TO FACTORY MUTUAL DATA SHEET 1-49.

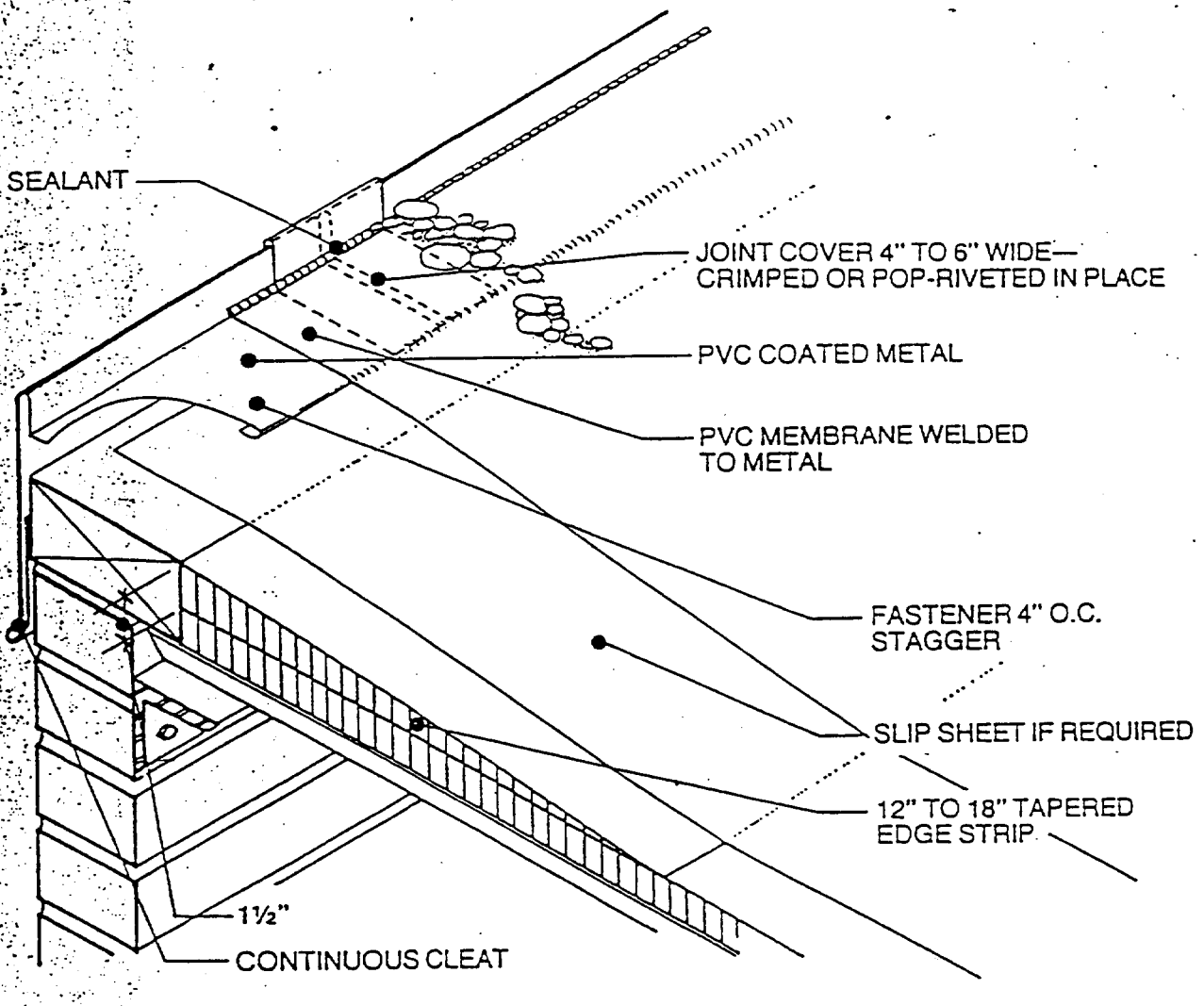
WOOD BLOCKING MAY BE SLOTTED FOR VENTING WHERE REQUIRED.

PVC SINGLE-PLY

NATIONAL ROOFING CONTRACTORS ASSOCIATION

1985 B

LIGHT METAL ROOF EDGE



NOTES:

ATTACH NAILER TO MASONRY WALL. REFER TO FACTORY MUTUAL DATA SHEET 1-49.

THIS DETAIL SHOULD BE USED ONLY WHERE DECK IS SUPPORTED BY THE OUTSIDE WALL.

THIS DETAIL SHOULD BE USED WITH LIGHT GAUGE METALS, SUCH AS 16 OZ. COPPER, 24 GAUGE GALVANIZED METAL OR 0.040" ALUMINUM. A TAPERED EDGE STRIP IS USED TO RAISE THE GRAVEL STOP. FREQUENT NAILING IS NECESSARY TO CONTROL THERMAL MOVEMENT.

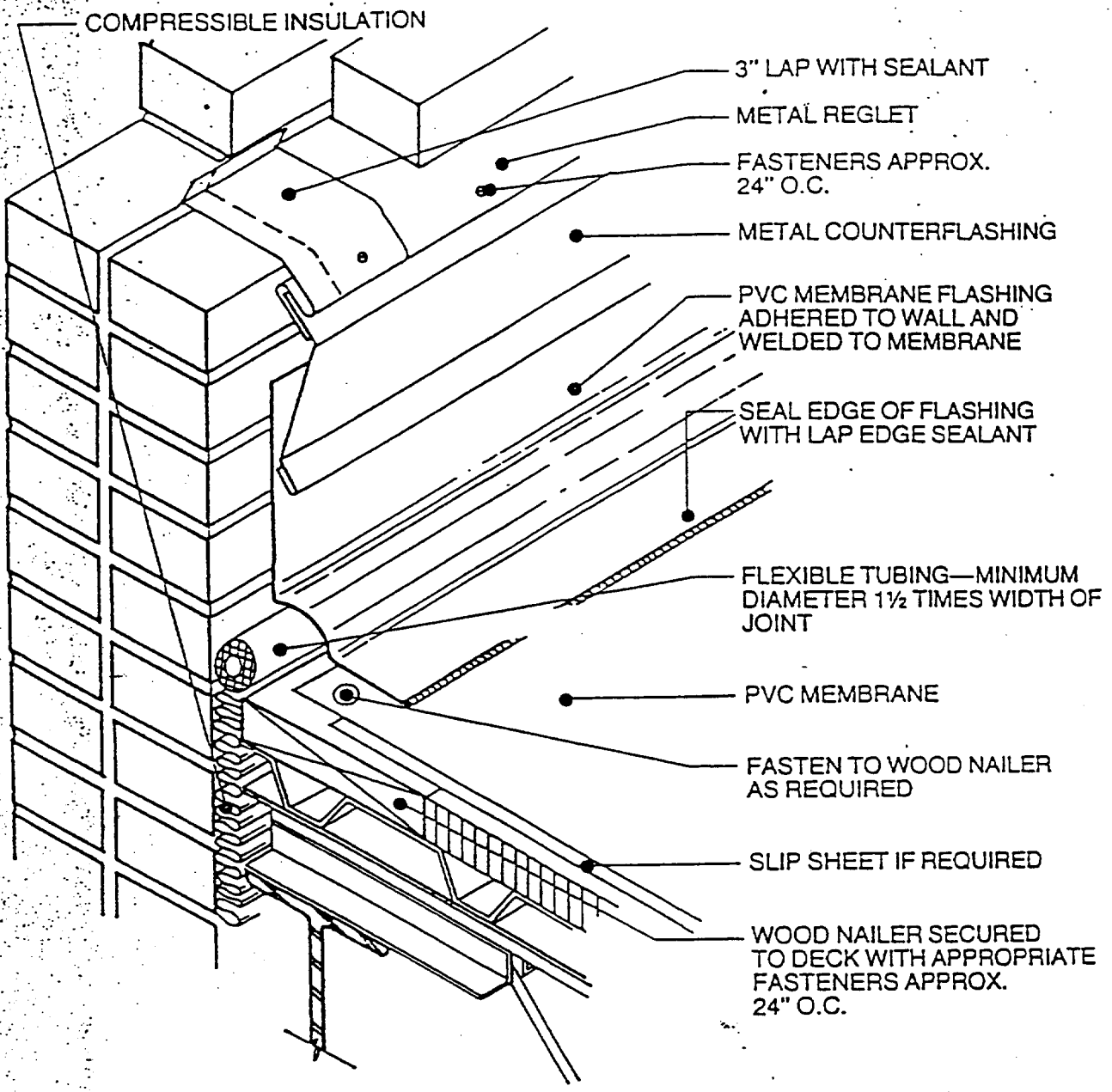
WOOD BLOCKING MAY BE SLOTTED FOR VENTING WHERE REQUIRED.

PVC SINGLE-PLY

NATIONAL ROOFING CONTRACTORS ASSOCIATION

1985 D

BASE FLASHING FOR NON-WALL-SUPPORTED DECK



THIS DETAIL ALLOWS WALL AND DECK TO MOVE INDEPENDENTLY.

THIS DETAIL SHOULD BE USED WHERE THERE IS ANY POSSIBILITY THAT DIFFERENTIAL MOVEMENT WILL OCCUR BETWEEN THE DECK AND A VERTICAL SURFACE, SUCH AS AT A PENTHOUSE WALL.

PVC SINGLE-PLY

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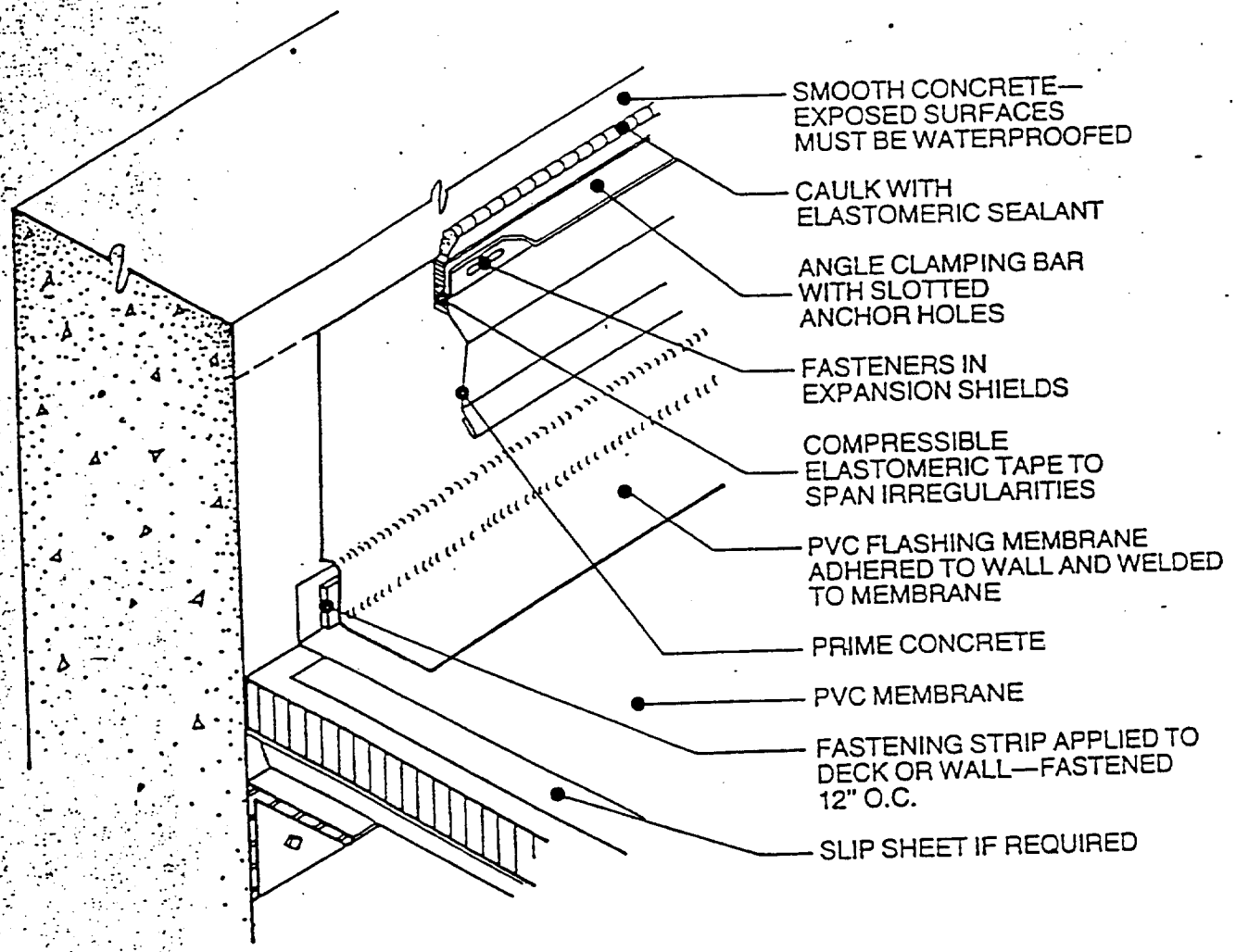
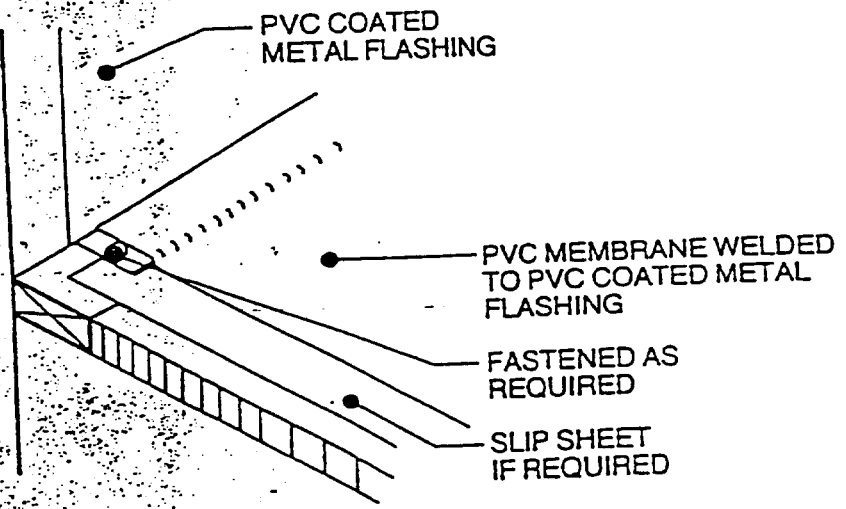
1985 E

COUNTERFLASHING FOR CONCRETE WALLS OR PARAPETS





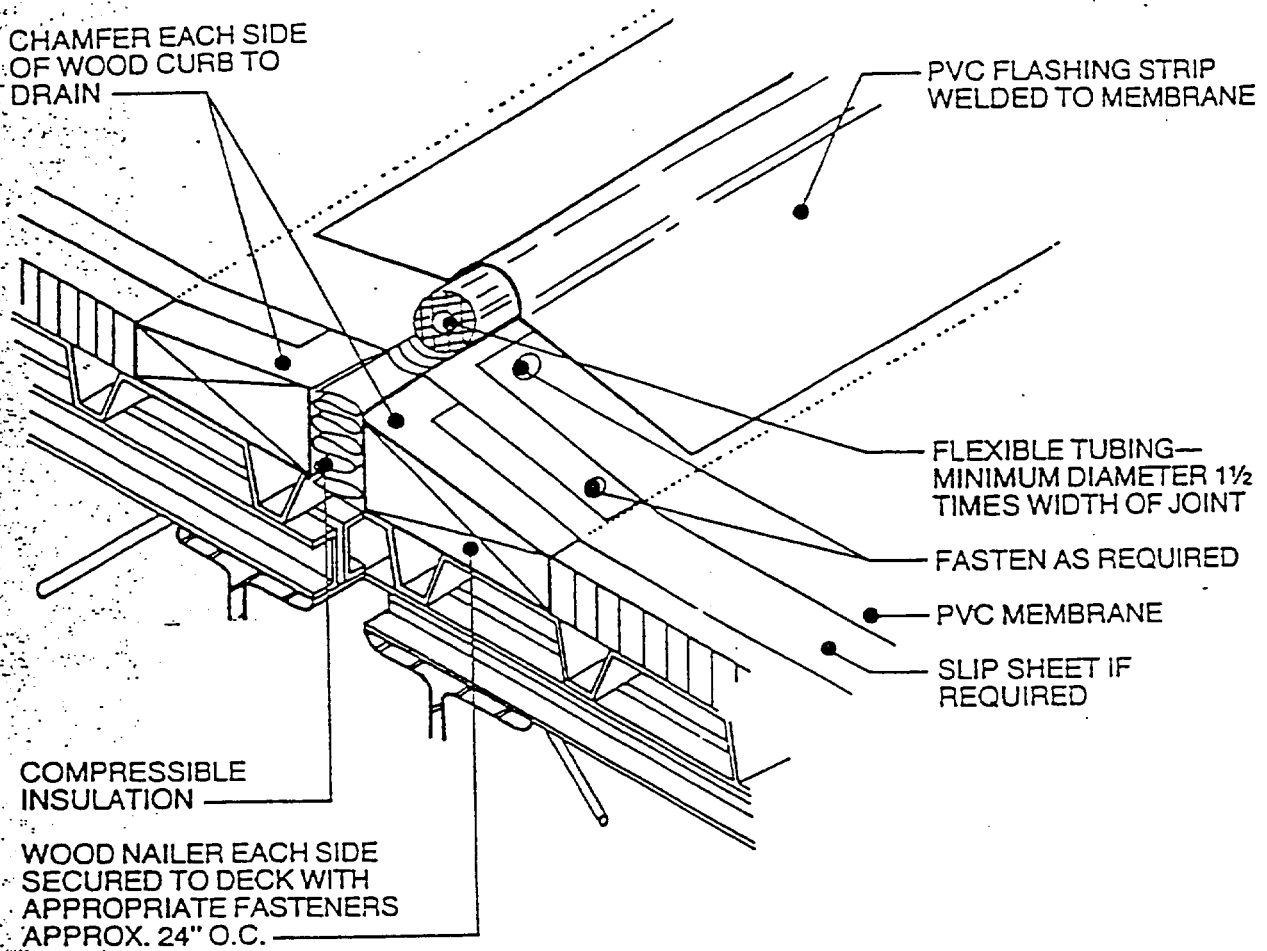
ALTERNATE FLASHING ARRANGEMENT

PVC SINGLE-P

NATIONAL ROOFING CONTRACT ASSOCIATI

1985

EXPANSION JOINT

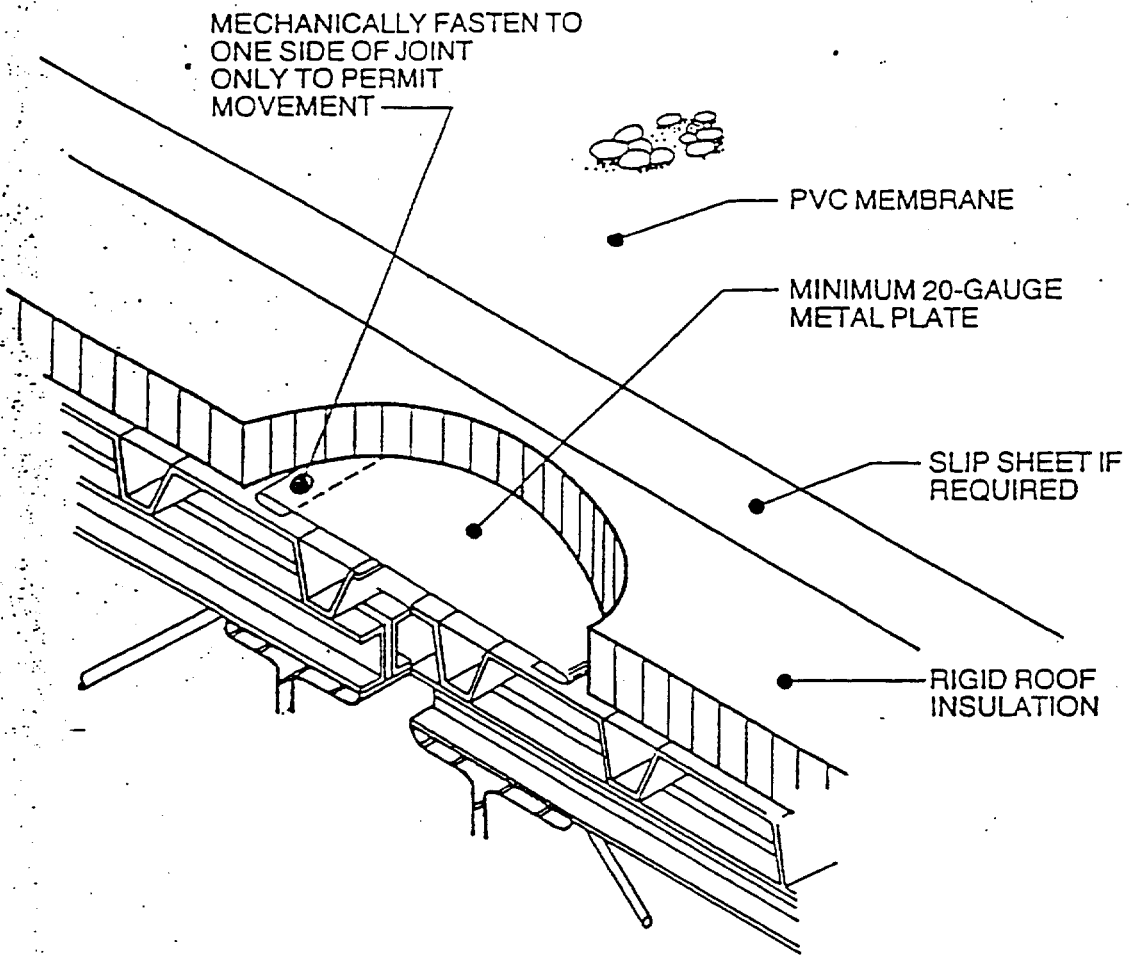


PVC SINGLE-PLY

NATIONAL ROOFING CONTRACTORS ASSOCIATION

1985 K-1

EXPANSION JOINT



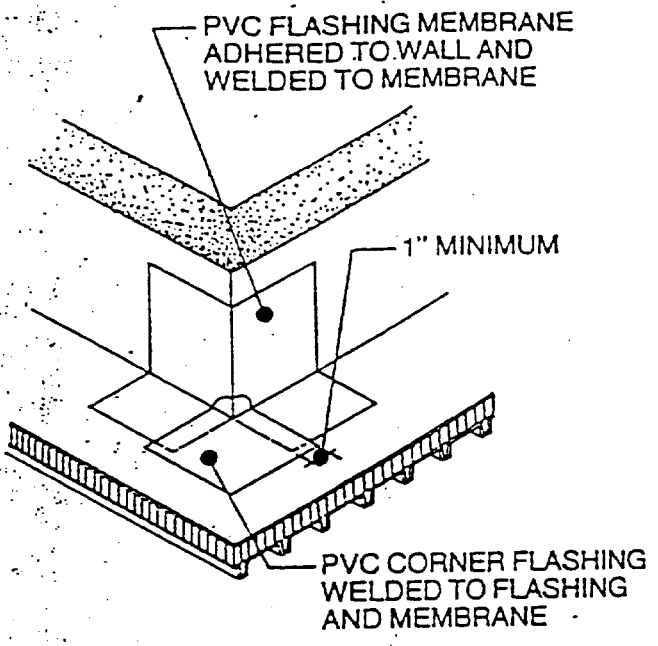
NOTE:

THIS DETAIL SHOULD ONLY BE USED WITH LOOSE-LAID BALLASTED SYSTEMS.

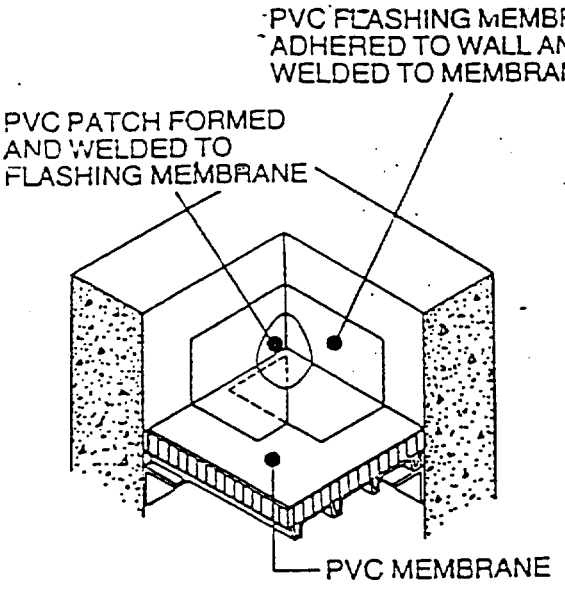
PVC SINGLE-PLY

NATIONAL ROOFING CONTRACTORS ASSOCIATION

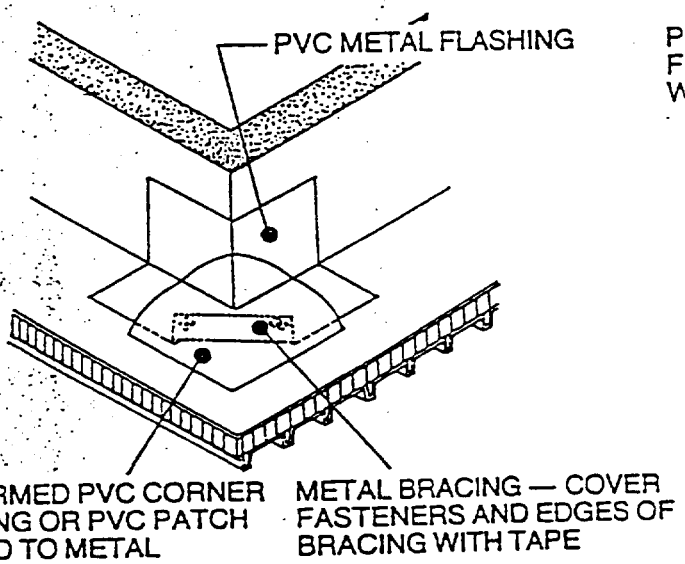
1985 K-2



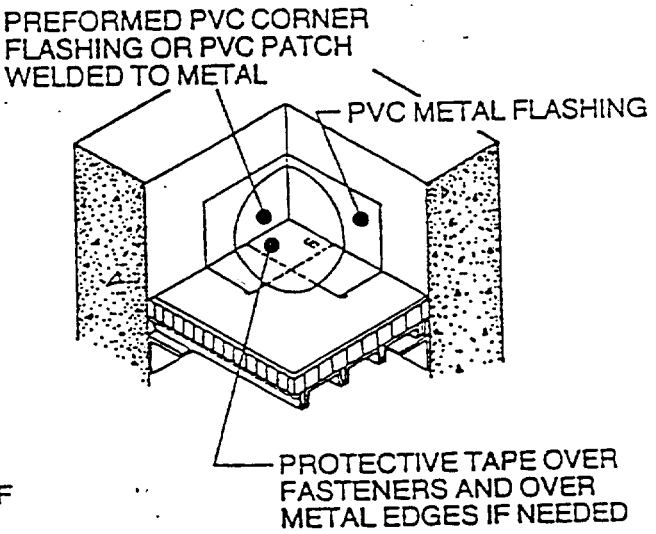
PVC OUTSIDE CORNER FLASHING



PVC INSIDE CORNER FLASHING



PVC OUTSIDE CORNER (METAL)



PVC INSIDE CORNER (METAL)

NOTE:

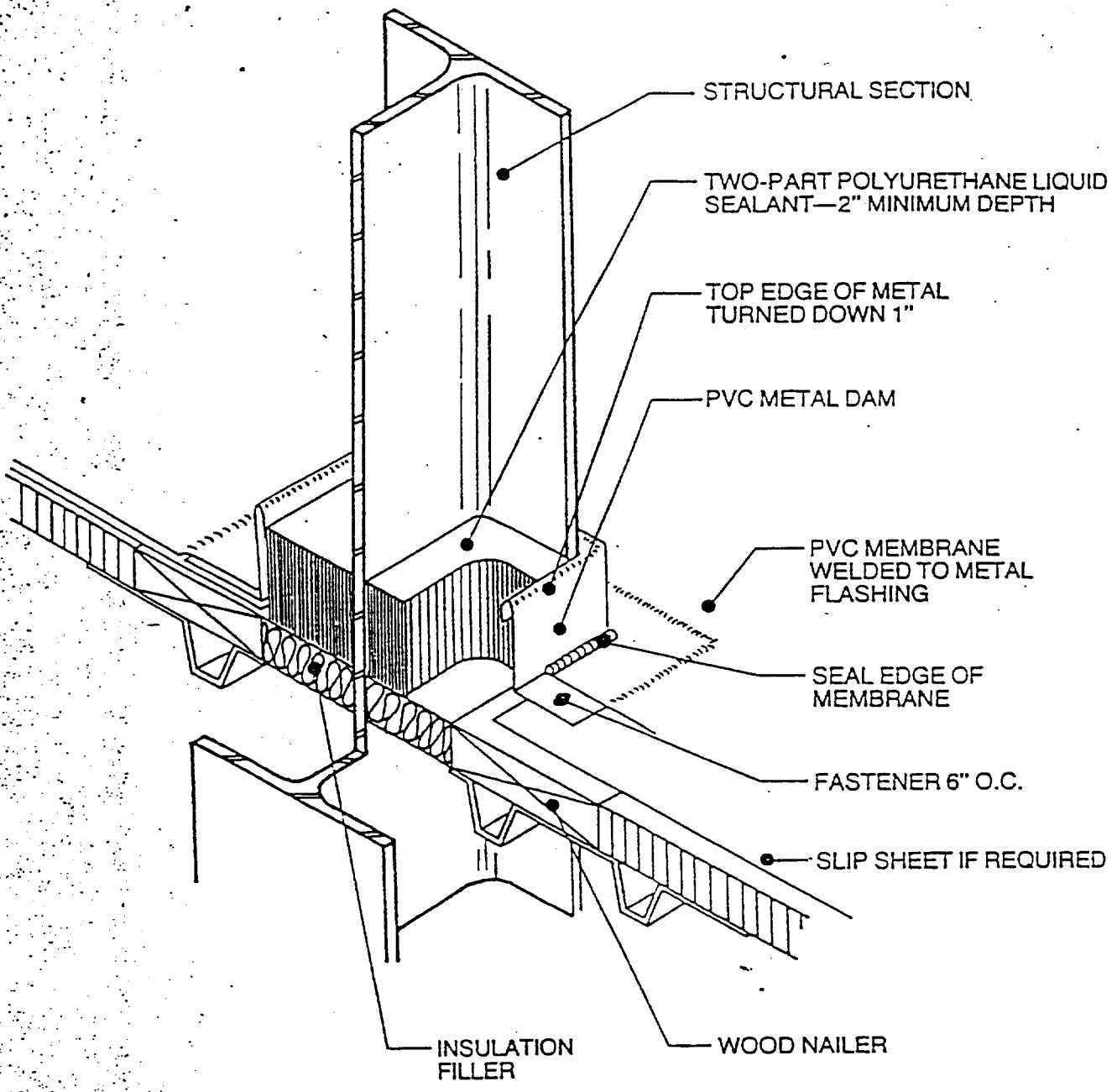
MANY MANUFACTURERS OFFER PRE-FABRICATED CORNER PIECES. DETAILS VARY GREATLY ON CORNER TERMINATIONS. CONSULT EACH MANUFACTURER FOR SPECIFICS CONCERNING TECHIQUES.

PVC SINGLE-PLY

NATIONAL ROOFING CONTRACTORS ASSOCIATION

1985 N

FLASHING STRUCTURAL MEMBER THROUGH ROOF DECK



PVC SINGLE-PLY

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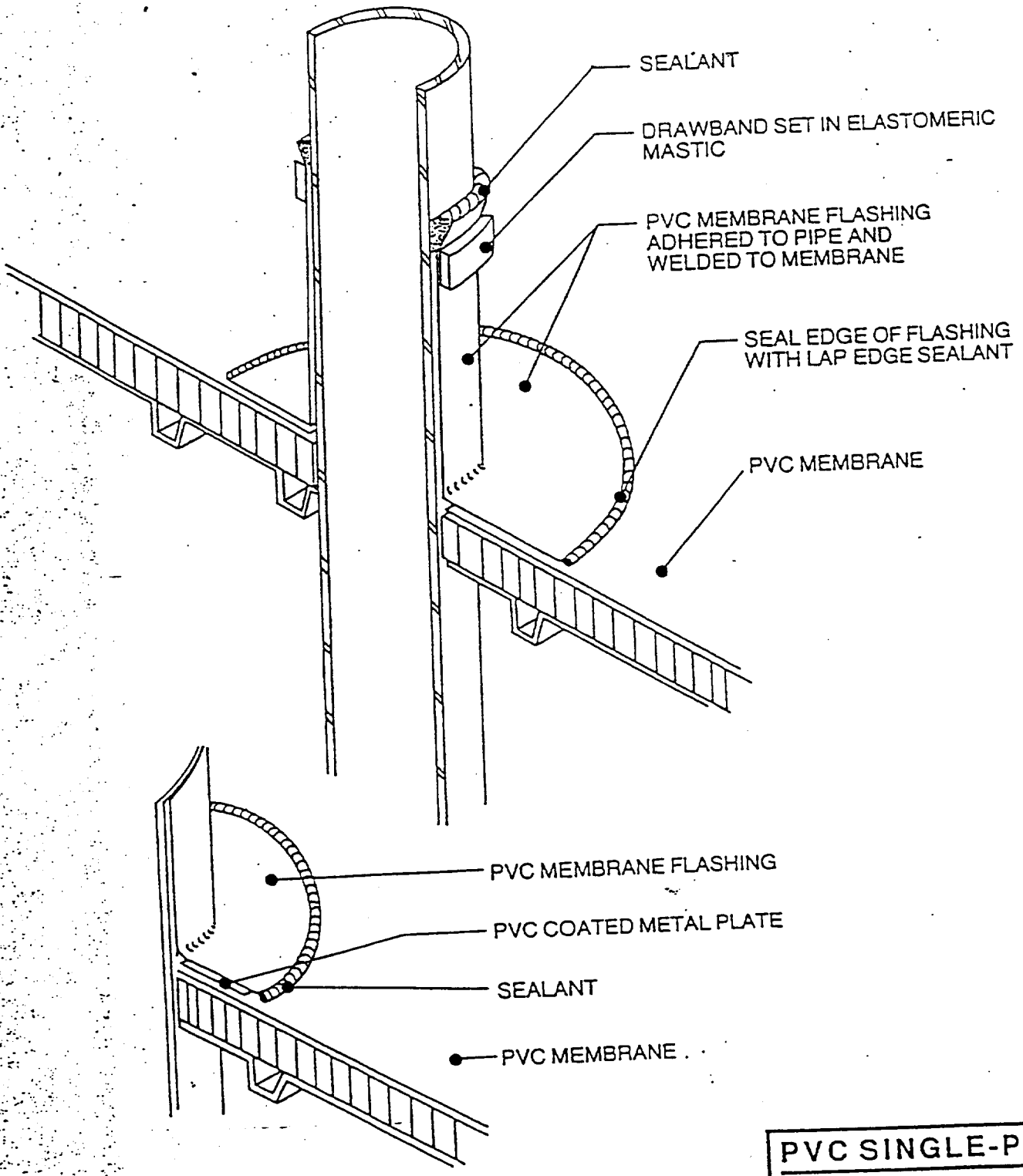
1985 Q

PIPE FLASHING USING PRE-FABRICATED COVER

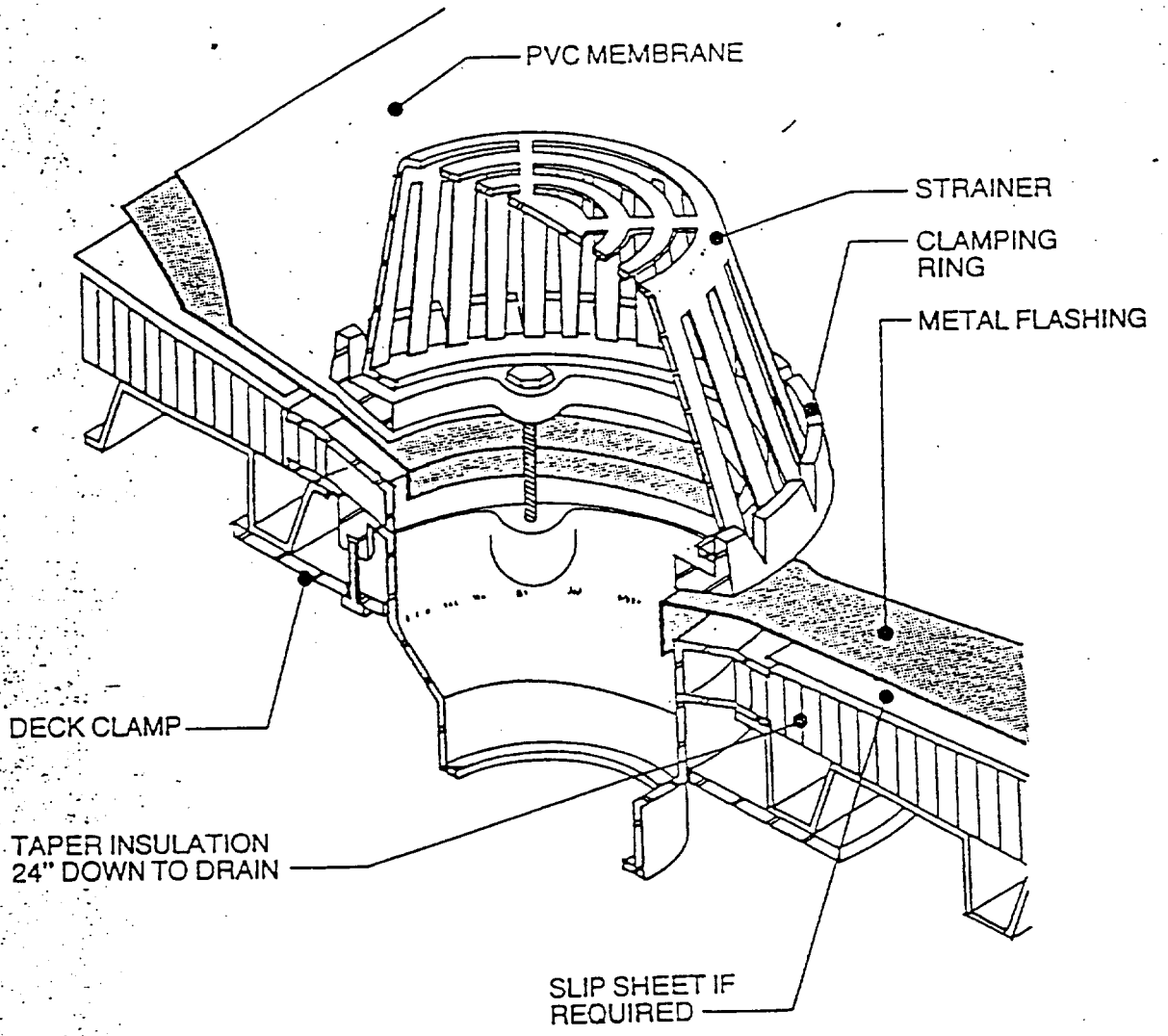


ALTERNATE USING EMBEDDED PVC COATED METAL PLATE

PVC SINGLE-PLY

NATIONAL ROOFING CONTRACTORS ASSOCIATION

1985



NOTES:

MIN. 30" SQUARE, 2½-LB. TO 4-LB. LEAD OR 16-OZ. SOFT COPPER FLASHING, SET ON DRAIN RING IN MASTIC.

PVC MEMBRANE BONDED TO METAL FLASHING WITH COMPATIBLE ADHESIVE.

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1985 W