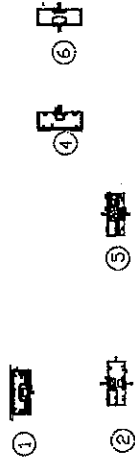


Mock up #1 - no steel

E4500 Series No Steel Mock-Up #1



A Architectural Testing

Test sample complies with these details. Deviations are noted.

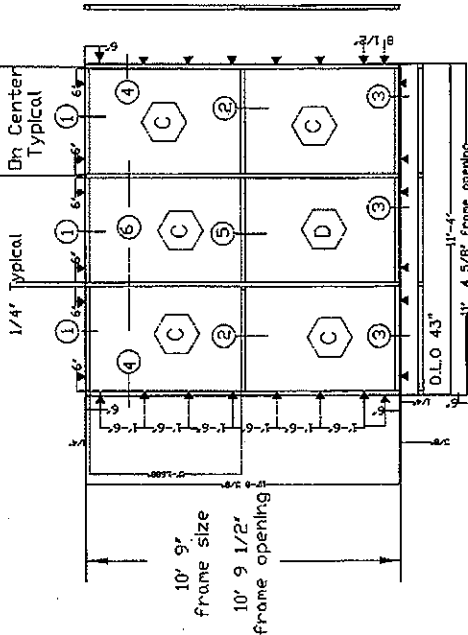
Report # C1529101-450-411
Date 10/26/12 Tech AJ

Scale: 4/1

E4500 Series Performance Tests - No steel reinforcement

- Preload @ 50% Design Pressure (15 psf)
- Air Infiltration Per ASTM E283-04 (6.24 psf)
- Static Water Penetration Per ASTM E331-00 (12 psf)
- Water Penetration Per AAMA 501.1-05 (12 psf)
- Structural Performance Per ASTM E330-02 (30 psf)
- Structural Overload Per ASTM E330-02 (45 psf)

E4500 Series No Steel Mock-Up #1



► Anchor location

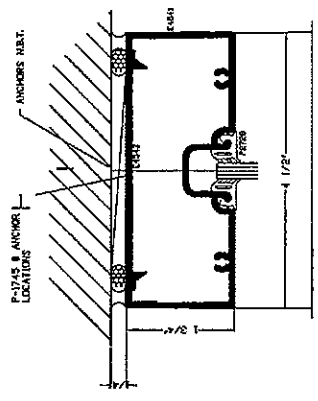
E4500 Series No Steel Mock-Up #1

- Scale: 1/2" = 1'-0"
- Glass size = DLD + 5/8" = 62 5/16"
- Glass size = DLD + 9/16" when using E4503 = 62 1/4"

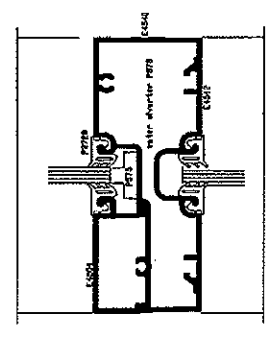
Glazing Material = 1/4" clear tempered glass

TUBELITE®
STOREFRONT, CURTAINWALL & ENTRANCES
DEPENDABLE

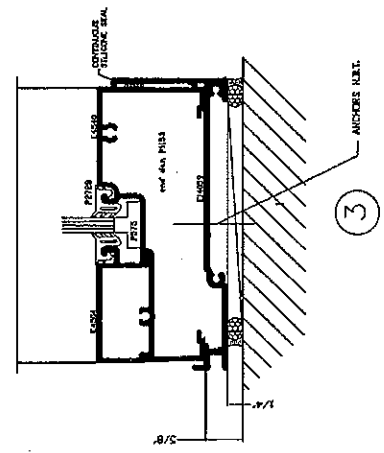
E4500 SF		Mock up #1 - No Steel reinforced	
Structural Testing		Structural Testing	
DESIGN BY	DATE	APPROVA	DATE
SCALE 1/2"=1'	9/13/12	PROJECT NO.	1013
	190		3



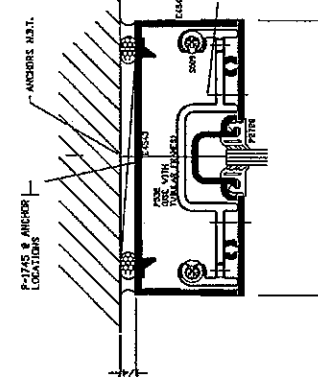
1



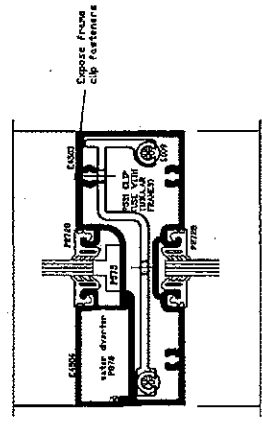
2



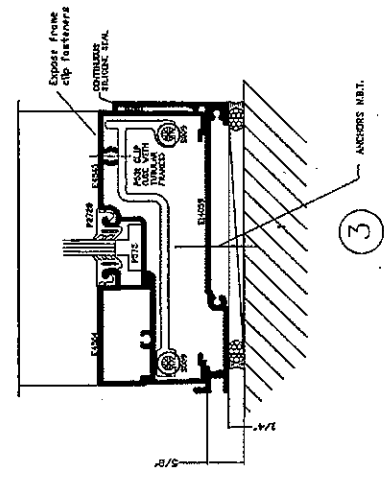
3



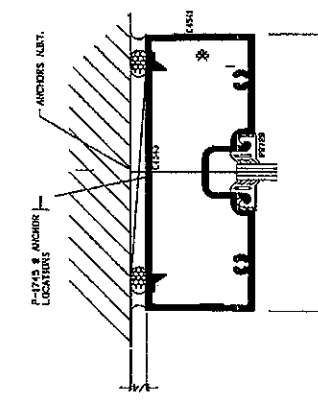
1



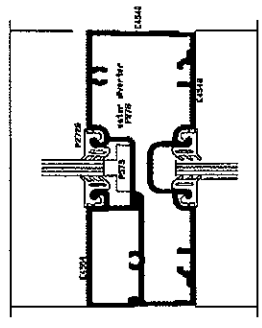
5



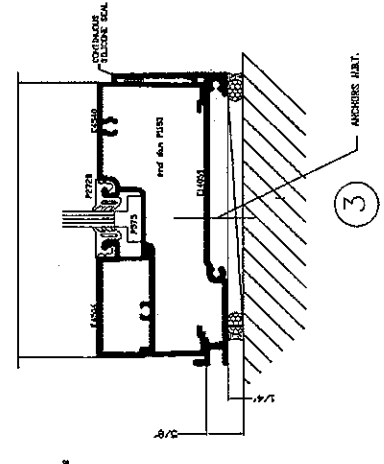
3



1



2



3

PERIMETER ANCHOR LOCATIONS:
 Mock up #1 No steel reinforcement
 -6" ON EACH SIDE OF VERTICAL
 MULLIONS FOR HEAD AND SUB SILL.
 -CAP AND SEAL ALL ANCHORS

- Head: Use 1/4-20 x 3 3/4" Flat
 head screws. Grade 5, Self drilling
 -Sill: Use 1/4-20 x 1 1/2" HH,
 Grade 5, Self drilling

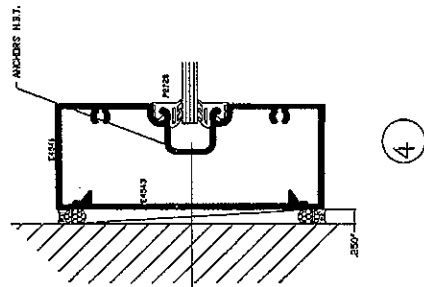
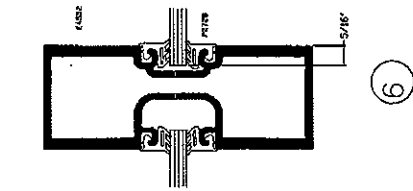
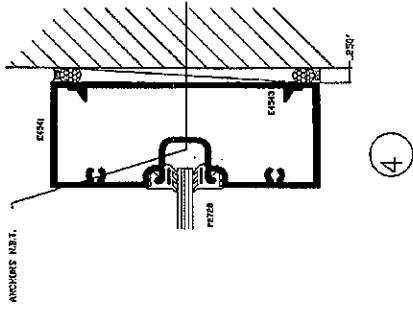
Exposed Frame Clip Fastener:
 Mock up #1 No steel reinforcement

-#10-18 x 3/4" self tapping screws
 -Cap and seal all exposed frame clip
 screws.



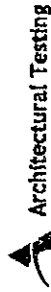
Test sample complies with these details.
 Deviations are noted.
 Report # C1529.01-459.414
 Date 10/26/12 Tech. APT

SCALE	FULL SIZE	FACTORY ORDER NO.	1500
DRAWN BY	JT	CONTRACT	1500
REVISED		LOCATION	Mock-Up #1
		APPROVED	
		CUSTOMER	
TUBELITE INC.		ORDER NO.	
10/20/12		Sheet	2 of 3
		LABORER NO.	No steel



Jamb Anchoring:

- Use 1/4-20 x 3 3/4" Flat head screws. Grade 5, self drilling along the jambs.
- Start at 6" from head and sill and 18" O.C.



Test sample complies with these details.

Deviations are noted.

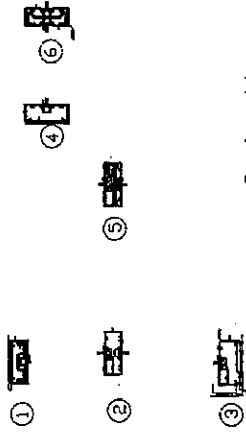
Report # C1529.01-450-44

Date 10/26/12 Tech AD

SCALE	TEST SIZE	PROJECT CODE NO	TEST TYPE
		4500	Structural Test
			NO REINFORCEMENT
			VERTICAL
			DIAGONAL
			OTHER
TUBELITE INC.		CITY, STATE, ZIP	
10/2012		3 3 No steel	

Mock up #2 - Steel Reinforced

E4500 Series Test Mock-up #2 with Steel



Scale: 4:1

E4500 Series Performance Tests

- Preload @ 50% Design Pressure (15 psf)
- Air Infiltration Per ASTM E283-04 (6.24 psf)
- Static Water Penetration Per ASTM E331-00 (12 psf)
- Water Penetration Per AAMA 501.1-05 (12 psf)
- Structural Performance Per ASTM E330-02 (30 psf)
- Structural Overload Per ASTM E330-02 (45 psf)

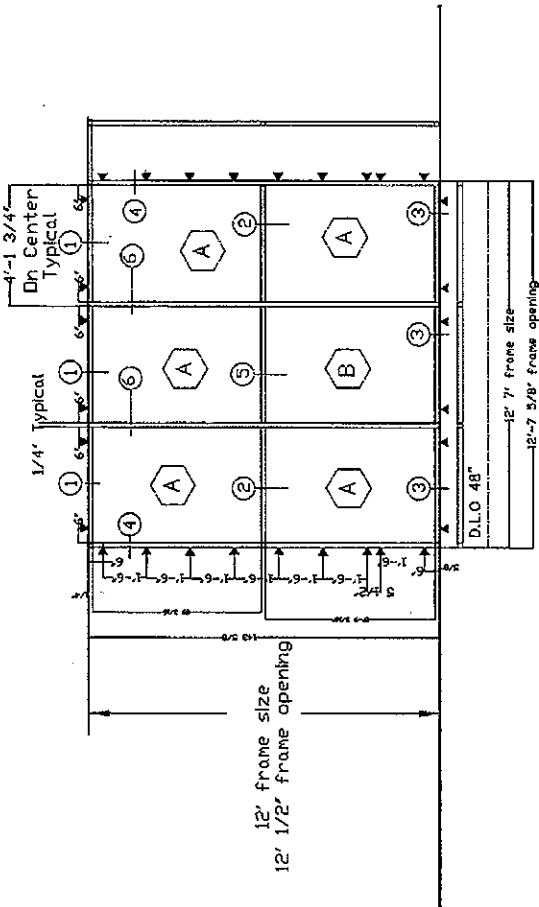


Test sample complies with these details.
Deviations are noted.

Report # C1529.01-450-411

Date 07/26/12 Tech AA

E4500 Series Test Mock-up #2 with Steel



E4500 Series Test Mock-up #2 with Steel

Scale: 1/2" = 1'-0"

▲ Anchor location

⊖ A Glass size = DLO + 5/8" = 5' - 9 13/16" or 69.8125'

⊖ B Glass size = DLO + 9/16" when using E4503 = 5' - 9 3/4" or 69.75'

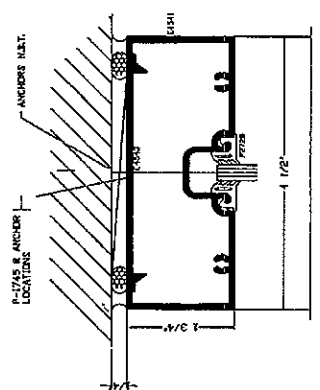
Glass Material: 1/4" clear tempered glass

TUBELITE®
STORFRONT, CURTAINWALL & ENTRANCES
DEPENDABLE

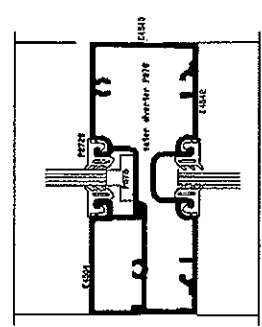
E4500 SF

Mock up #2 - Steel reinforced
Structural Testing

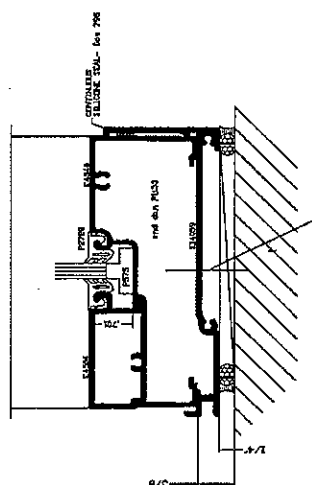
DATE	APPROVED BY	DATE	REV
9/13/12			
SCALE 1/2"=1'	PRODUCT 190	SHEET NO.	1 OF 3



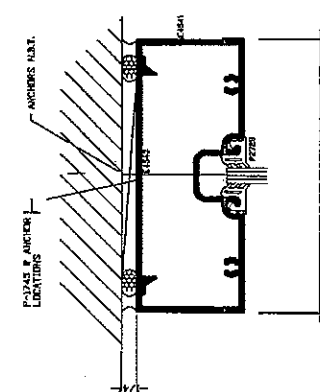
1



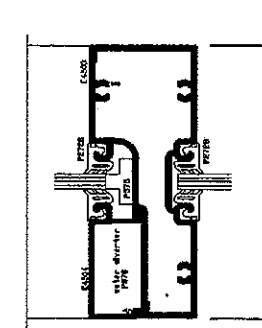
2



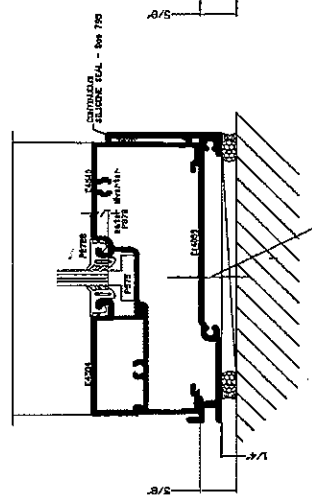
3



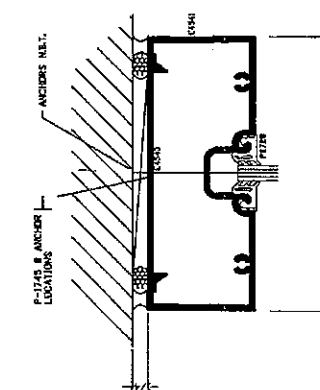
1



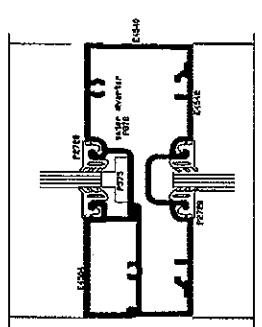
5



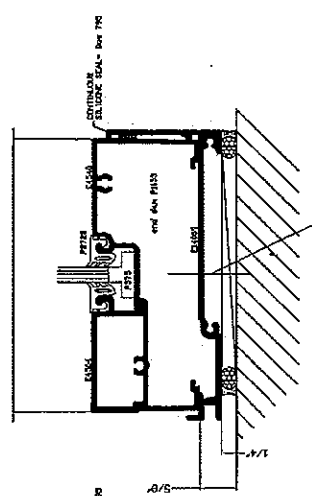
3



1



2



3

PERIMETER ANCHOR LOCATIONS;
Mock up #2 steel reinforcement

-6" ON EACH SIDE OF VERTICAL
MULLIONS FOR HEAD AND SUB SILL.

-CAP AND SEAL ALL ANCHORS

- Use 1/4-20 x 2" Flat head screws,
Grade 5, Self drilling At the sub sill

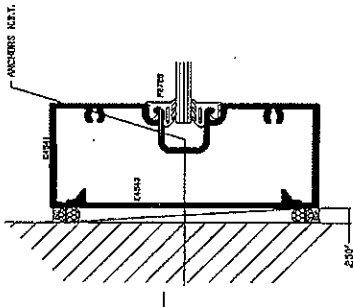
-Use SS 1/4-20 x 2 3/4" flat head
screws, Grad 5, self tapping along the
head.



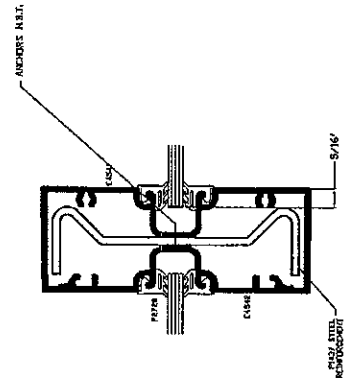
Test sample complies with these details.
Deviations are noted.

Report # CAS 24-01-450-44
Date of 2/6/12 Tech AD

FACTORY ORDER NO.	TEST NO.	TEST DATE	TEST TIME	TEST LOCATION	TEST METHOD
SCALE	FULL SIZE	DATE	TIME	TESTER	TESTER
TUBELITE INC.					
800 WAGYON TRAIL, P.O. BOX 185 REED CITY, MICHIGAN 49877 616-652-2211					



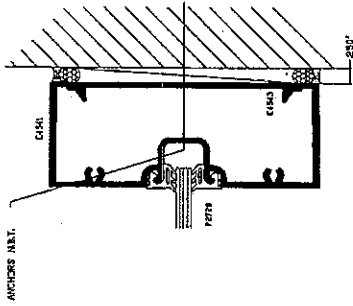
4



6

Fabricate steel reinforcement:

- Cut P1437 steel channel 4" shorter than mullion height. Paint ends to prevent rust.
- Insert the steel into the mullion (E4541) and aligned and center steel with mullion.
- Drill 0.213" diameter through center of the deep pocket of mullion and steel at 16" O.C.
- Tap holes and steel channel only for use #10 x3/4" SS flat head fastener. Cut flush with steel after installation.



4

Jamb Anchoring:

- Use SS 1/4-20 x 2 3/4" Flat head screws. Grade 5, self tapping along the jambs.
- Start at 6" from head and sill and 18" O.C.



Test sample complies with these details. Deviations are noted.

Report # C1529.01-450-44

Date 10/24/12 Tech AA

SCALE	FULL SIZE	FACTORY ORDER NO.	HECK UP #2
DATE	TT	JOB NO.	4500 Structural Test
REVISED		MATERIAL	STEEL REINFORCEMENT
		PROJECT	VERTICAL DETAILS
		CUSTOMER	
		ORDER NO.	
TUBELITE INC.			
800 MICHIGAN TRAIL, PO BOX 110 REED CITY, MICHIGAN 49677 616-892-2811			
DATE	10/20/12	SHEET	3
		OF	3
		MATERIAL	Steel