



Farabaugh Engineering and Testing Inc.

PERFORMANCE TEST REPORT

**MODEL 2100/2200/2400
SERIES SLIDER
HORIZONTAL SLIDING WINDOW
HS-R25
(72" X 48")**

**DOVE INDUSTRIES
767 SANS SOUCI PARKWAY
WILKES BARRE, PA 18702**

Project No. T200D-04

10/1/04

REVISED: 5/2/07

**401 Wide Drive • McKeesport, PA 15135
(412) 751-4001 • FAX (412) 751-4003**

PERFORMANCE TEST REPORT

Manufacturer: DOVE INDUSTRIES
767 SANS SOUCI PARKWAY
WILKES BARRE, PA 18702

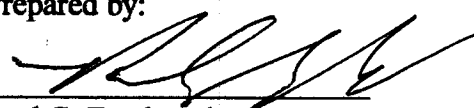
Product Identification

Product Type: Horizontal Sliding Window (XX)
Series/Model #: MODEL#: 2100/2200/2400 Series Slider
Specification: AAMA/NWWDA 101/I.S.2-97
Designation: HS-R25 (72" X 48") AAMA/NWWDA 101/I.S.2-97
Product Description: Attached
Test Results: Attached
Test Equipment: FET
Testing Date: 9/21/04


Detailed assembly drawings showing wall thickness of all members, corner construction and hardware application are on file and have been compared to the sample submitted. A copy of this report and test sample will be retained at FET for a period of 4 years. The results obtained apply only to the specimen tested. No conclusions of any kind regarding the adequacy or inadequacy of the glass in the test specimen may be drawn from this test.

The above results were secured by using the designated test methods and they indicate compliance with the performance requirements of the referenced specification. This report does not constitute certification of this product, which may only be granted by the certification program administrator.

Prepared by:


Paul G. Farabaugh

Approved by:


Patrick J. Farabaugh, PE

Product Description**General:**

Test sample was comprised of Dove Industries, 2100/2200/2400 Series Slider, Horizontal Sliding (XX) Vinyl Prime window, with an overall master frame size measuring 72" wide X 48" high X 3-1/4" deep. Both operable sashes measured 35" wide X 44-3/4" high overall. The frame and sash corners were of welded, mitered type construction. One extruded aluminum reinforcement member filled the member hollow of the locking operable sash meeting stile. The interior right operable sash used an exterior screen. A 4" long vinyl header insert sash stop member was attached to the interior header track at 4" from center of frame just above locking operable sash

Weather-stripping:

MEMBER	WEATHERSTIPPING	QUANTITY	WIDTH X HEIGHT (INCHES)	LOCATION
Frame Header	Center Fin Pile Seal	1	0.187" w x .21" ht	Center Leg
	Center Fin Pile Seal	1	0.187" w x .21" ht	Interior Leg
Frame Sill	Center Fin Pile Seal	1	0.187" w x .21" ht	Center Leg
	Center Fin Pile Seal	1	0.187" w x .21" ht	Interior Leg
Frame Jamb	Center Fin Pile Seal	1	0.187" w x .21" ht	Center Leg
	Center Fin Pile Seal	1	0.187" w x .21" ht	Interior Leg
Interior Lt. Locking Sash (Top & Bottom rail)	Center Fin Pile Seal	1	0.187" w x .21" ht	Exterior face
Interior Lt.Locking sash (Locking & Jamb stile)	Center Fin Pile Seal	1	0.187" w x .21" ht	Exterior face
Interior Rt. Keeper sash (top & bottom rail)	Center Fin Pile Seal	1	0.187" w x .21" ht	Exterior face
Interior Rt. Keeper sash (meeting keeper rail)	Rubber Bulb	1	0.14" diameter 5/8" x 5/8" x 0.40 Ht.	Interior face
	Pile Seal	1		Int. face each end.
Interior Rt. Keeper sash (jamb stile)	Center Fin Pile Seal	1	0.187" w x .21" ht	Exterior face
Screen (Top & Bottom rail)	None	-	None	-
Screen (Jamb stile)	Pile Seal	1	0.187" w x 0.19" ht.	side face
Screen (Locking stile)	Rubber Flap	1	0.75" ht.	side face

Operators and Other Hardware:

Two metal rollers with plastic housing was located at each end of each operable sash bottom rail. Two cam-type sweep lock were attached to the locking sash meeting rail, one 7" from each end and corresponding keepers on the adjacent meeting rail.

Glazing System:

Each sash was exterior drop glazed with 0.75" thick insulated glass. The sash utilized two (0.09" nominal) thick clear annealed glass lites with a 0.57" perimeter metal spacer. A exterior snap-in rigid vinyl-glazing bead with the glazing set on a bead of silicone sealant around the perimeter of the window secured the glass.

Weep Holes:

Two (1-5/16" w x 1/4" h reduced to 1-3/16" w x 1/8" h) weeps with flaps were located on the exterior face of the sill, one 3-3/4" from each end. Two (1-5/16" w x 1/4" h) weeps were located at the first adjacent interior wall from the exterior weeps, one 3-3/4" from each end. Four (9/32" diameter) weep holes were down through the bottom track of the sill, one 4" from each end and in each track. Two per each track. Two (3/16" diameter) weep holes were thru the top of glazing track bottom rail for each sash, one 5-3/4" from each end.

Sealant:

Silicone sealant was applied to all the following areas:

- Perimeter of the glazing was set in continuous bead of silicone.
- Exterior face of frame to buck intersection.

Anchorage:

Silicone sealant was used around the exterior perimeter of the frame to buck intersections. Two (#8 x 2" long) screws were used for each jamb to secure the frame to the buck. One (#8 x 2" long) screw was located at the center of the header to buck attachment.

Model: 2100/2200/2400 Series Slider
HORIZONTAL SLIDING WINDOW
Test Results

<u>Paragraph</u>	<u>Test Title / Referenced Test Method</u>	<u>Test Results</u>	<u>Allowable</u>
<u>Gateway Performance Requirements</u>			
2.1.2	Air Infiltration Test (ASTM E-283-91) @ 1.57 psf <i>The test specimen meets the performance levels specified in AAMA/NWWDA 101/I.S.2-97 for Air Infiltration.</i>	0.175 cfm/sf	0.30 cfm/sf
2.1.3	Water Resistance Test (ASTM E547-96) @ 2.86 psf (w/wo screen)	No penetration	No penetration
2.1.4.2	Uniform Load Structural Test (see optional performance results)		
2.1.7	Welded Corner Test	Meets	As Stated

Model: 2100/2200/2400 Series Slider
HORIZONTAL SLIDING WINDOW

Test Results (cont.)

<u>Paragraph</u>	<u>Test Title / Referenced Test Method</u>	<u>Test Results</u>	<u>Allowable</u>
2.1.8	Forced Entry Resistance (ASTM F588-97) Performance Level 10 Type A (Section 10)		
	Sec. 10.1 Lock Manipulation Test	No Failure	As Stated
	Sec. 10.2.1.1 Test A1	No Failure	As Stated
	Sec. 10.2.1.2 Test A2	No Failure	As Stated
	Sec. 10.2.1.3 Test A3	No Failure	As Stated
	Sec. 10.2.1.4 Test A4	No Failure	As Stated
	Sec. 10.2.1.5 Test A5	No Failure	As Stated
	Sec. 10.2.1.6 Test A6	No Failure	As Stated
	Sec. 10.2.1.7 Test A7	No Failure	As Stated
	Sec. 10.2.1.8 Lock Manipulation Test	No Failure	As Stated
	<u>Specific Window Performance Results</u>		
2.2.2.5.1	Operating Force Test		
	Left Interior keeper operable sash	8 lb left, 8 lb right	20 lb
	Right Interior locking oper. sash	9 lb left, 10 lb right	20 lb
2.2.2.5.2	Deglazing Test (ASTM E987-88, Method B)		
	<u>Left Interior Operable sash</u>		
	left stile @ 70 lbf	13 %	<100%
	right stile @ 70 lbf	13 %	<100%
	top rail @ 50 lbf	6 %	<100%
	bottom rail @ 50 lbf	6%	<100%
	<u>Right Interior Operable sash</u>		
	left stile @ 70 lbf	13 %	<100%
	right stile @ 70 lbf	13 %	<100%
	top rail @ 50 lbf	6 %	<100%
	bottom rail @ 50 lbf	6%	<100%
	<u>Optional Performance Results</u>		
4.3	Water Resistance Test (ASTM E547-96)		
	@ 4.5 psf (w/wo screens)	No penetration	No penetration

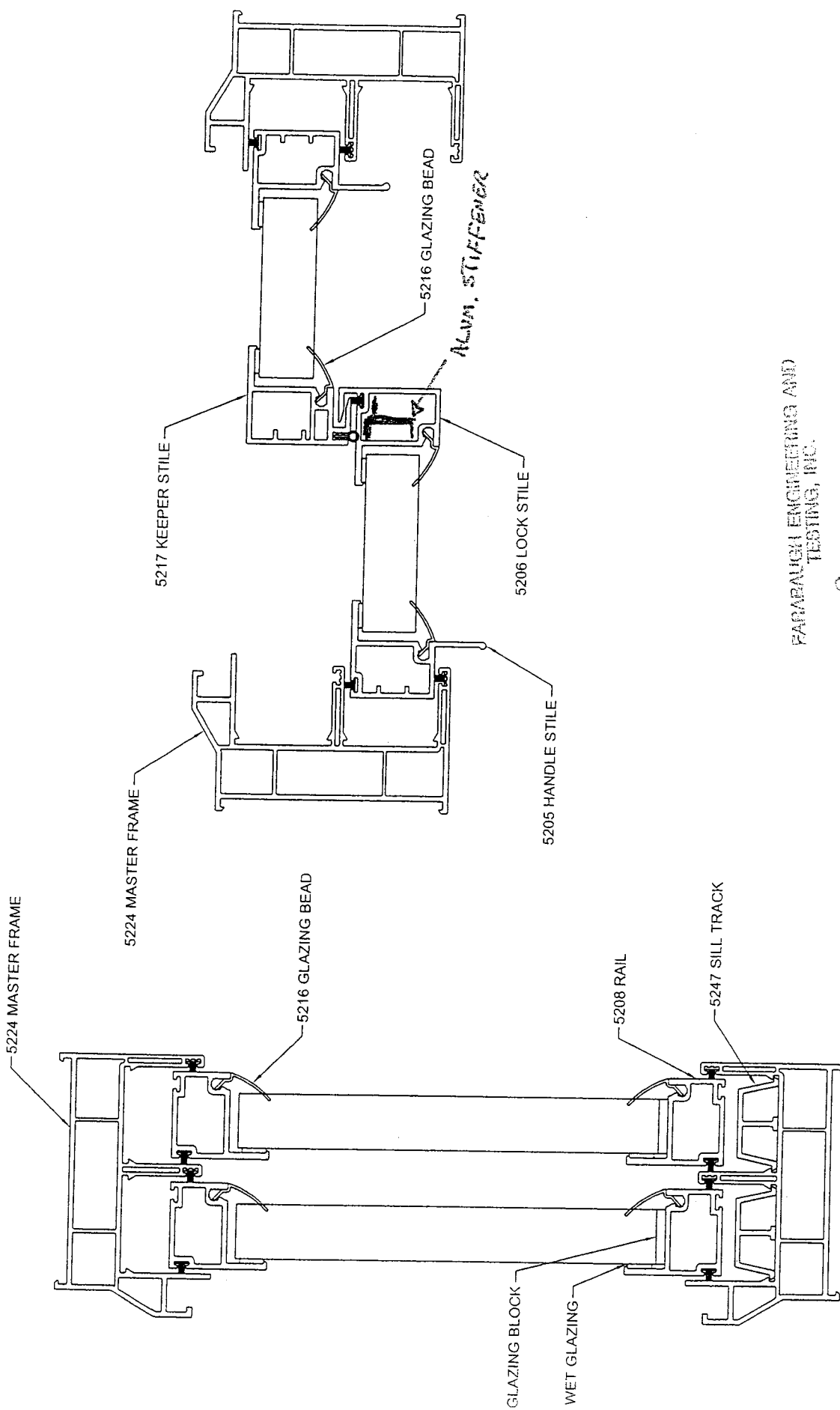
Model: 2100/2200/2400 Series Slider
HORIZONTAL SLIDING WINDOW

Test Results (cont.)

<u>Paragraph</u>	<u>Test Title / Referenced Test Method</u>	<u>Test Results</u>	<u>Allowable</u>
4.4.2	Uniform Load Structural Test (ASTM E-330-96)		(0.4% \times L)
	@ 37.5 psf positive	0.083" *	0.179"
	@ 37.5 psf negative	0.090" *	0.179"

* - Maximum Deformations.

91050075

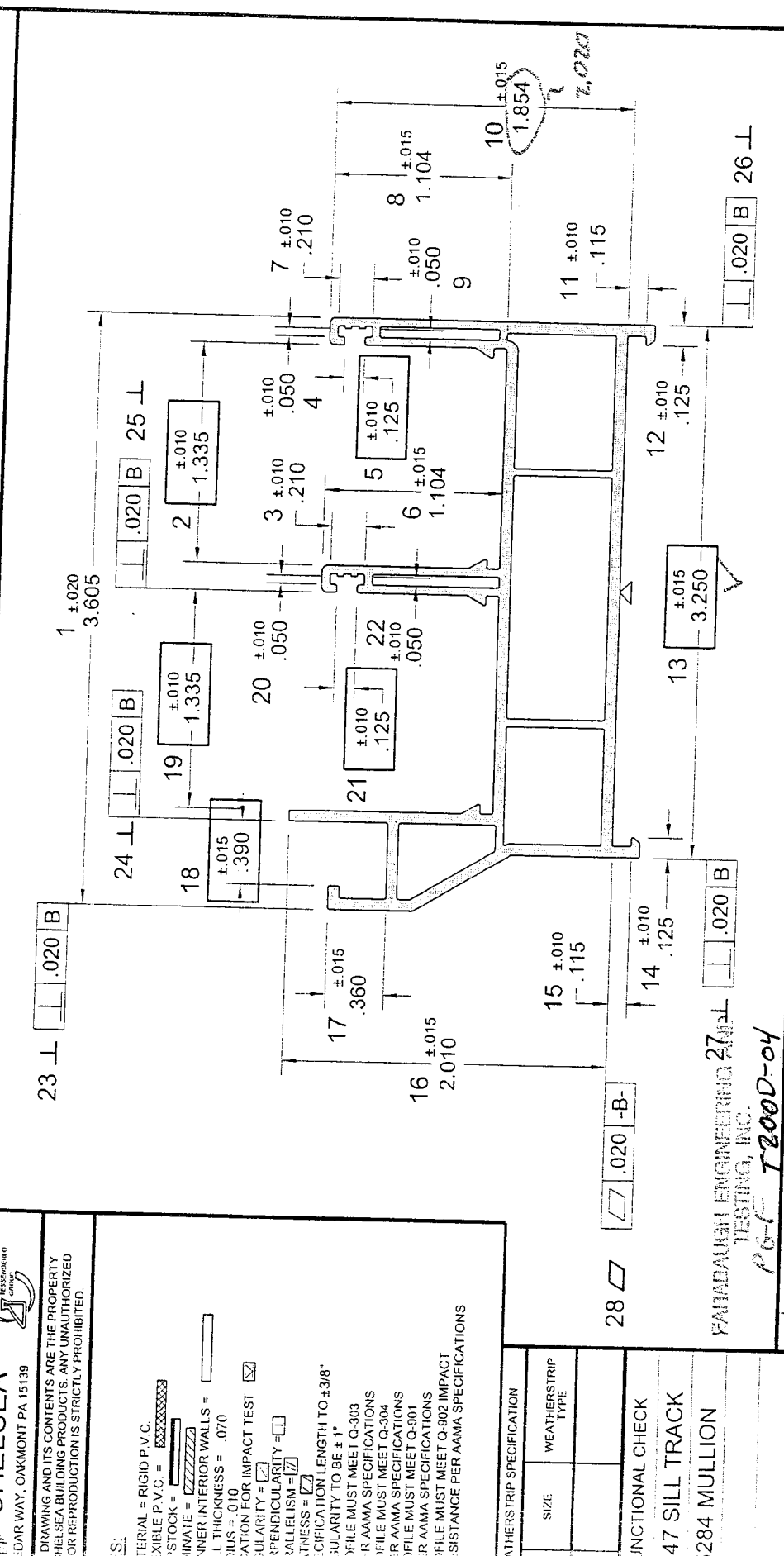


RAPAPALICH ENGINEERING AND TESTING, INC.

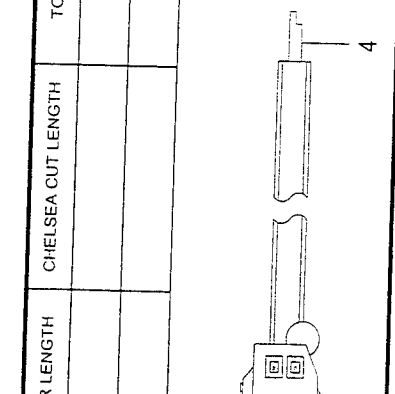
P&E T200D-04

PRELIMINARY PART #		5200 SERIES	
TITLE		REPLACEMENT XX SLIDER	
DRAWN BY:	EAS	DESIGNED BY:	DATE
CHECKED BY:		APPROVED BY:	04-04-01
		SCALE	
		NTS-1	
		DRAWING No	
		5200S006	
<p>CHELSEA BUILDING PRODUCTS, INC. 565 CEDAR WAY, OAKMONT PA 15139</p>		<p>THIS DRAWING AND ITS CONTENTS ARE THE SOLE PROPERTY OF CHELSEA BUILDING PRODUCTS, INC. ANY UNAUTHORIZED USE OR REPRODUCTION IS STRICTLY PROHIBITED.</p>	
COPYRIGHT 2002			
NO. 1		REVISION	
REPLACED 5206 BEAD WITH 5216 BEAD, 5208 RAIL			
BY	DATE		
EAS	07-30-02		

CHELSEA
 CEDAR WAY, OAKMONT PA 15139
 ILLUSTRATION OF PART AND CONTROL POINTS



NO.	REVISION	DATE	CHELSEA CUT LENGTH	TOLERANCE
3	REMOVED SHADING: WO #0219	EAS 08-07-02		
2	ADDED FUNCTIONAL CHECK: WO #1189	EAS 12-05-01		
1	ADDED FUNCTIONAL CHECK: WO #1084	EAS 09-06-01		
	BY			
	DATE			



FAHARAHH ENGINEERING TESTING, INC.
 P6-F T200D-04

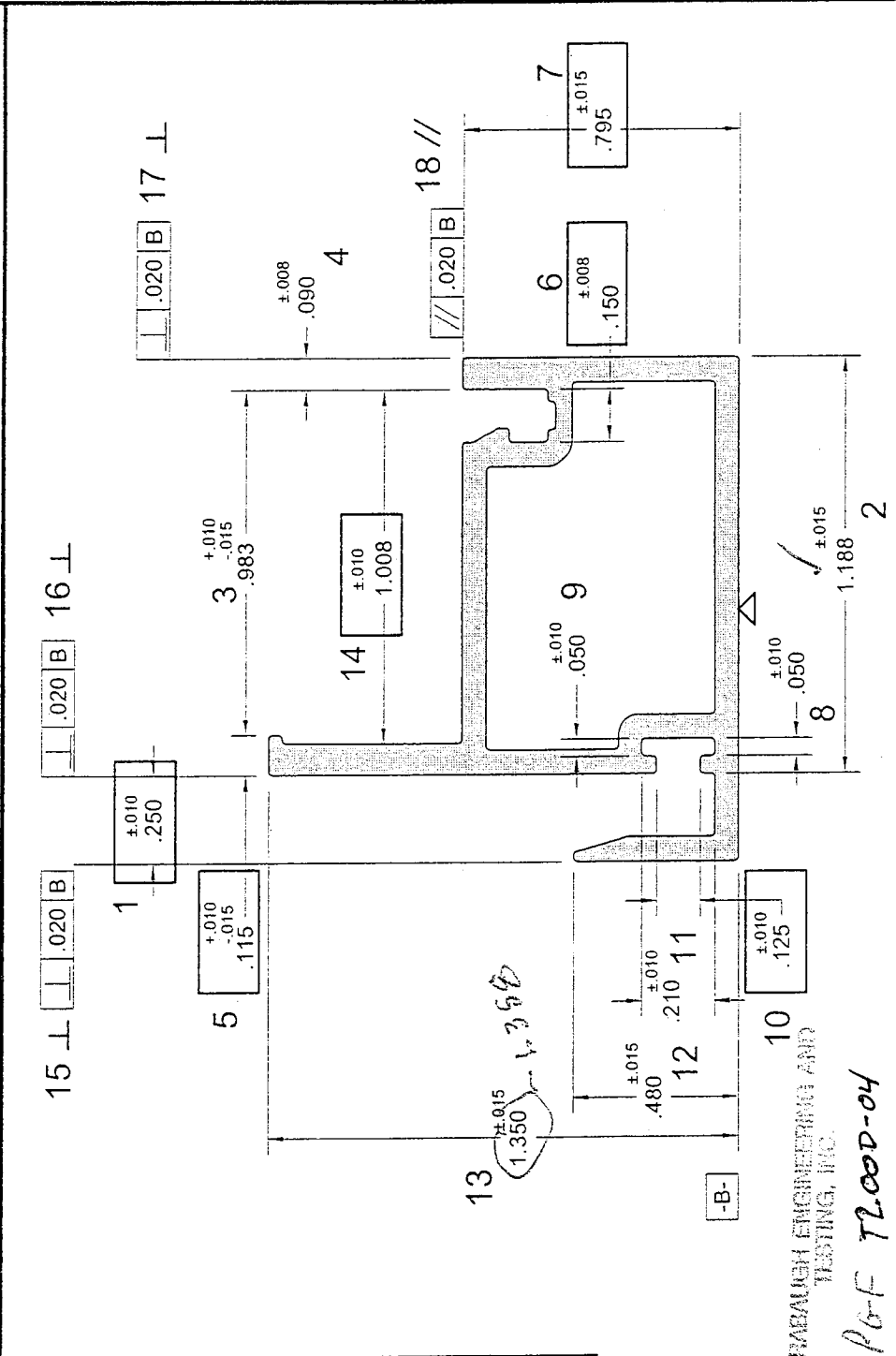
WEATHERSTRIP SPECIFICATION
 FUNCTIONAL CHECK
 5247 SILL TRACK
 5284 MULLION
 DRAWN DATE: 04-12-01
 e caliper diagram as your guide to measure the following control points.
 re the following control points using #1 on the caliper diagram: 1,10,12,13,14,16
 re the following control points using #2 on the caliper diagram: 6,8,17
 re the following control points using #3 on the caliper diagram: 2,3,4,5,7,9,11,15,18,19,20,21,22
 re the following control points using #4 on the caliper diagram:
 ncy of sampling: Process Specialist: 3 samples per shift recorded every 4 hours.
 : 1 sample per shift recorded 1 hour after shift start.
**ANY CONTROL POINTS ARE NOT IN SPEC.
 CORRECTIVE ACTION REQUIRED**

PART NAME: 5206 DESCRIPTION: LOCK RAIL/STILE SUPPLIER/PLANT: CHELSEA BUILDING PRODUCTS

ILLUSTRATION OF PART AND CONTROL POINTS

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- IES:
- MATERIAL = RIGID P.V.C.
 - EXTERIOR COATING = [XXXXXX]
 - INTERIOR COATING = [ZZZZZZ]
 - THINNER INTERIOR WALLS = [ZZZZZZ]
 - WALL THICKNESS = .070
 - RADIUS = .010
 - LOCATION FOR IMPACT TEST [X]
 - PERPENDICULARITY = []
 - PARALLELISM = []
 - FLATNESS = []
 - SPECIFICATION LENGTH TO ANGULARITY TO BE ± 1°
 - PER ANMA SPECIFICATIONS PROFILE MUST MEET Q-303
 - PER ANMA SPECIFICATIONS PROFILE MUST MEET Q-304
 - PER ANMA SPECIFICATIONS PROFILE MUST MEET Q-301
 - PER ANMA SPECIFICATIONS PROFILE MUST MEET Q-902 IMPACT RESISTANCE PER ANMA SPECIFICATIONS



RAVABAUGH ENGINEERING AND TESTING, INC.
 Rof F2000-04

NO.	REVISION	DATE	BY	DATE	EAS
7	DIM .983 WAS CRITICAL; WOF#198	03-26-04	EAS		
6	REVISED DIM 14; WOF#487	03-05-04	JPP		
5	ADDED DIM 14; WOF#233	07-02-03	JPP		
4	REVISED DIMS; WOF#287	10-31-02	JPP		
3	REVISED DIMENSIONS	10/15/02	BLG		
2	ADDED FUNCTIONAL CHECK; WO #1084	09-06-01	EAS		
1					

AWN DATE: 04-10-01

FUNCTIONAL CHECK

216A GLAZING BEAD

WEATHERSTRIP SPECIFICATION

TIGHT	SIZE	WEATHERSTRIP TYPE

CUSTOMER LENGTH

CHELSEA CUT LENGTH

TOLERANCE

2 3 4

ANY CONTROL POINTS ARE NOT IN SPEC.
 CORRECTIVE ACTION REQUIRED

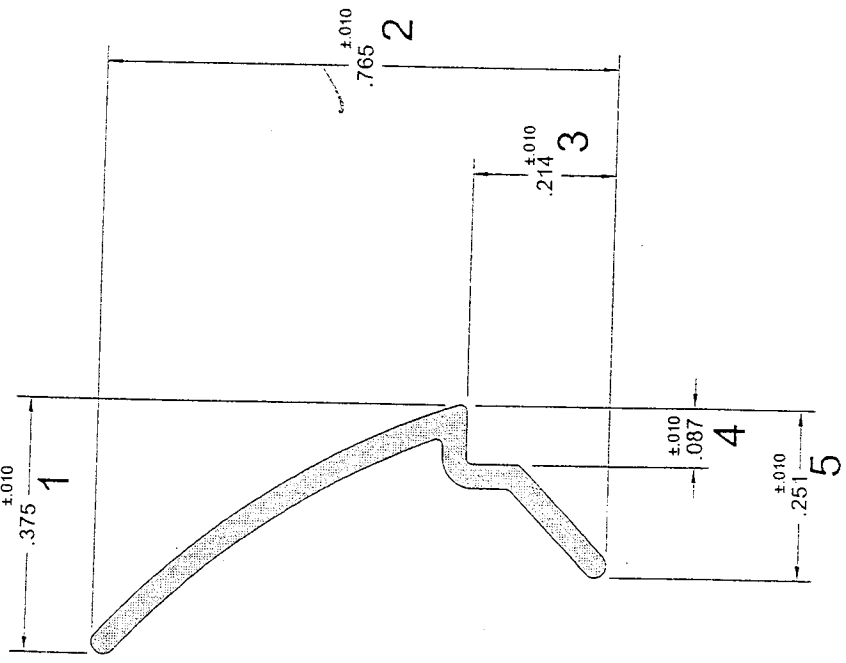
PRINT NUMBER: 5216QC
 ART NAME: 5216
 DESCRIPTION: GLAZING BEAD
 DRAWN BY: EAS
 APPROVED BY: []
 DATE: []
 DEVELOP []
 INPROCESS []
 PRODUCTION []

SUPPLIER/PLANT:
CHELSEA BUILDING PRODUCTS

ILLUSTRATION OF PART AND CONTROL POINTS

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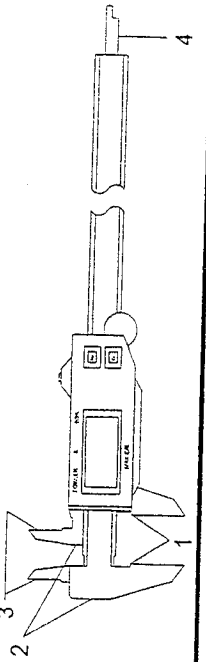
DIES:
 MATERIAL = RIGID P.V.C.
 FLEXIBLE P.V.C. = []
 EXTERIOR COATING = []
 LAMINATE = []
 THINNER INTERIOR WALLS = []
 WALL THICKNESS = .035
 RADIUS = .010 R
 LOCATION FOR IMPACT TEST
 ANGULARITY = []
 PERPENDICULARITY = []
 PARALLELISM = []
 FLATNESS = []
 SPECIFICATION LENGTH TO ±.38"
 ANGULARITY TO BE ± 1°
 PROFILE MUST MEET Q-303 PER AAMA SPECIFICATIONS
 PROFILE MUST MEET Q-304 PER AAMA SPECIFICATIONS
 PROFILE MUST MEET Q-901 PER AAMA SPECIFICATIONS
 PROFILE MUST MEET Q-902 IMPACT RESISTANCE PER AAMA SPECIFICATIONS



PARADIGM ENGINEERING AND TESTING, INC.
 P66T200D-04

CUSTOMER LENGTH	CHELSEA CUT LENGTH	TOLERANCE
BLC 10/30/02		
BLG 10/22/02		
BLG 7/22/02		
BY: []	DATE	
NO. REVISION		
2	DIM #1 375 WAS .379 PER WO#290	
2	DIM #2 765 WAS .775	
1	DIM #1 WAS .353 AND DIM #2 WAS .750	

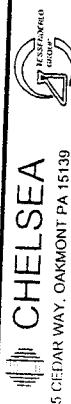
the caliper diagram as your guide to measure the following control points.
 Sure the following control points using #1 on the caliper diagram: 1, 2, 5
 Sure the following control points using #2 on the caliper diagram: 4
 Sure the following control points using #3 on the caliper diagram:
 Sure the following control points using #4 on the caliper diagram:
 Accuracy of sampling: Process Specialist - 3 samples per shift recorded every 4 hours.
 Loc. 1 sample per shift recorded 1 hour after shift start.



ANY CONTROL POINTS ARE NOT IN SPEC.
 CORRECTIVE ACTION REQUIRED

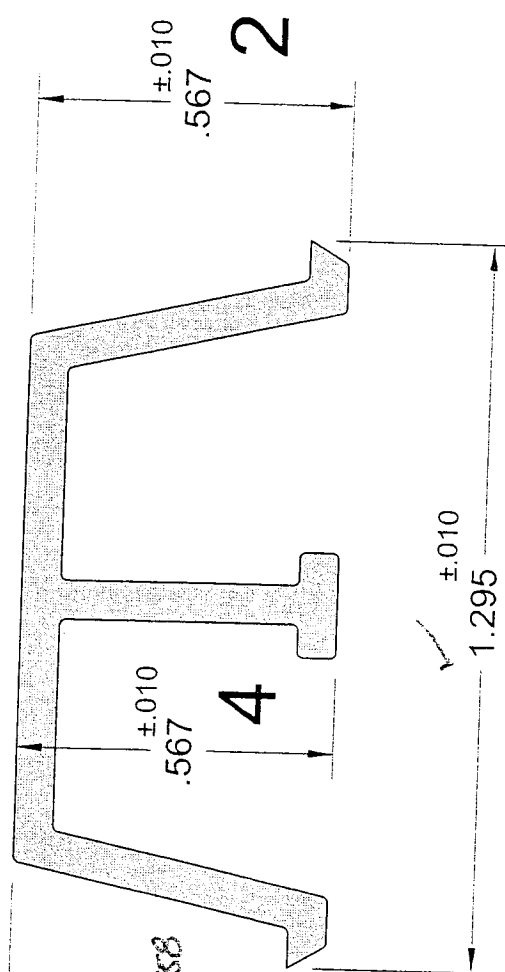
PRINT: MBE: 5247QC
 DRAWN BY: EAS
 APPROVED BY: _____ DATE: _____
 DEVELOP: IN PROCESS: PRODUCTION:

PART NAME: 5247
 DESCRIPTION: SILL TRACK
 SUPPLIER/PLANT: CHELSEA BUILDING PRODUCTS



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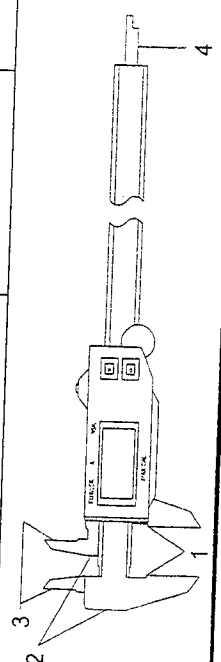
- NOTES:
- MATERIAL = RIGID P.V.C.
 - FLEXIBLE P.V.C. = [XXXXXX]
 - CAPSTOCK = [XXXXXX]
 - LAMINATE = [ZZZZZZ]
 - THINNER INTERIOR WALLS = [ZZZZZZ]
 - WALL THICKNESS = .070
 - RADIUS = .010 R
 - LOCATION FOR IMPACT TEST
 - ANGULARITY =
 - PERPENDICULARITY =
 - PARALLELISM =
 - FLATNESS =
 - SPECIFICATION LENGTH TO ±3/8"
 - ANGULARITY TO BE ± 1°
 - PROFILE MUST MEET Q-303 PER AAMA SPECIFICATIONS
 - PROFILE MUST MEET Q-304 PER AAMA SPECIFICATIONS
 - PROFILE MUST MEET Q-901 PER AAMA SPECIFICATIONS
 - PROFILE MUST MEET Q-902 IMPACT RESISTANCE PER AAMA SPECIFICATIONS



FAWCZUCH ENGINEERING AND TESTING, INC.
 PLOT 7200D-04

NO.	REVISION	DATE	CUSTOMER LENGTH	CHELSEA CUT LENGTH	TOLERANCE
2	ADDED FUNCTIONAL CHECK: WO 1189	12-10-01			
1	ADDED DIM #4 PER PDWG #1035	07-18-01			
	BY: JMB				
	DATE:				

AWN DATE: 04-16-01	the calliper diagram as your guide to measure the following control points sure the following control points using #1 on the calliper diagram: 1, 2, 3, 4 sure the following control points using #2 on the calliper diagram: sure the following control points using #3 on the calliper diagram: sure the following control points using #4 on the calliper diagram: Agency of sampling: Process Specialist- 3 samples per shift recorded every 4 hours. or- 1 sample per shift recorded 1 hour after shift start.
ANY CONTROL POINTS ARE NOT IN SPEC. CORRECTIVE ACTION REQUIRED	



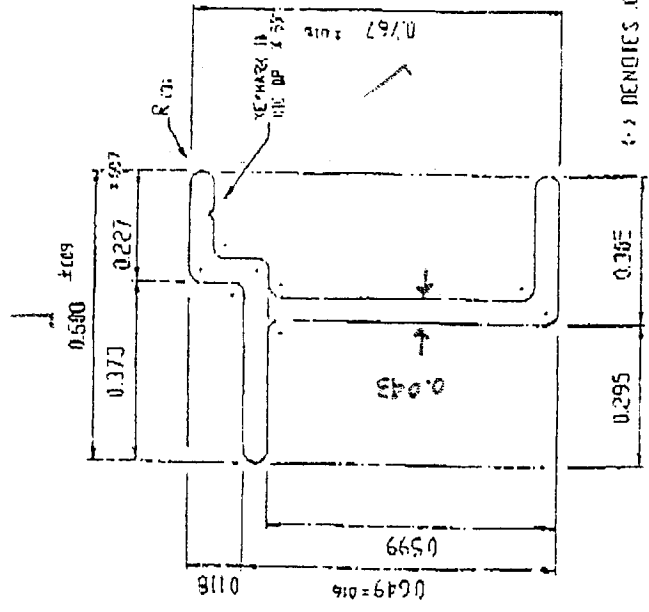
12/17/01

Dove Ind. To: Ron Dove

MAR 23 1998

S-22052
Dr. Number

STANDARD CONVENTIONAL TOLERANCES FOR EXTRUDER
PRACTICE APPLY UNLESS SPECIFIED OTHERWISE



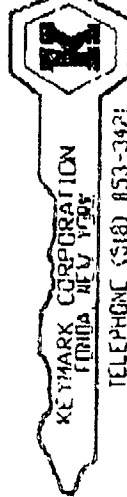
SEE REMARKS 025 & 40

ACTUAL SIZE



NO EXPOSED SURFACES

ATTN: PHILIP MARSHALL



TELEPHONE (518) 853-3421
FAX ENG (518) 853-9435 SALES (518) 853-3130

SPC	Revisions	Date
1	PRINT REVISION	02-02-94

RAMMGAUGH ENGINEERING AND TESTING, INC

P66 T200D-04

Estimated Per Reference Copy	Ly =	Sy =	Factor	34	RM	Spec	34	Drawn	0	Checked	0	Class	0
						Part Name	S.H. LOCK RAIL STRUTTER	Section	41	Section	02-2-94	Customer Part Number	02-2-94
						Unspecified Wall Thickness	0.050	Est. Area	0.078	Est. Perimeter	0.000	Est. Volume	0.000
						Specified Wall Thickness	0.050	Est. Area	0.078	Est. Perimeter	0.000	Est. Volume	0.000
						Ice Size	1-8	Est. Area	0.078	Est. Perimeter	0.000	Est. Volume	0.000
						Core Size	0.1	Est. Area	0.078	Est. Perimeter	0.000	Est. Volume	0.000

ATTN: RICK