

GLASS WAREHOUSE/FUTURE GLASS

ARA-BPSQ GLASS SPIGOT RAILING

GLASSWAREHOUSE
FUTUREGLASS

1319 ROCKY POINT DRIVE, SUITE 200
OCEANSIDE, CA 92056
PH: (760) 536-3640

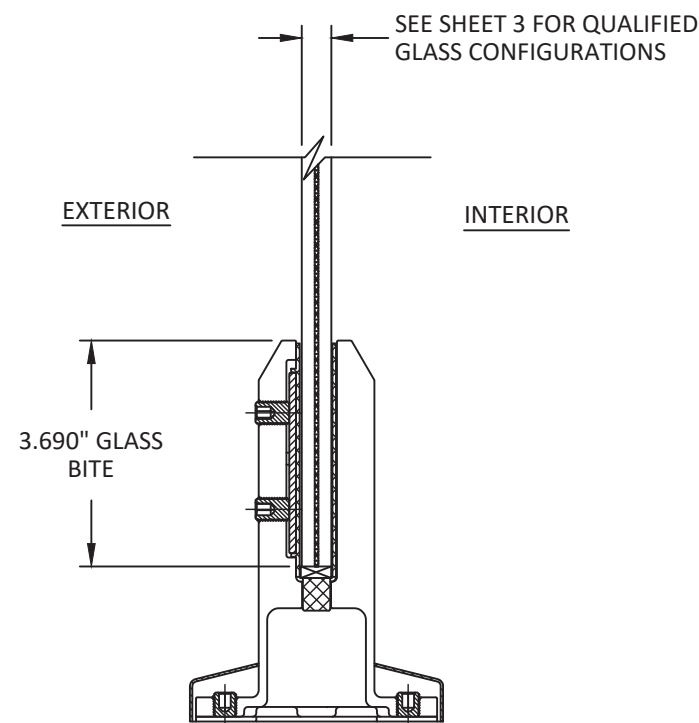
GENERAL NOTES:

1. THE PRODUCT SHOWN HEREIN IS DESIGNED AND MANUFACTURED TO COMPLY WITH THE CURRENT EDITION OF THE INTERNATIONAL BUILDING CODE (IBC), **EXCLUDING** HVHZ.
2. FOR FALL PROTECTION REQUIREMENTS, THIS PRODUCT HAS BEEN ANALYZED IN ACCORDANCE WITH SECTION 1607.9.1 AND MEETS THE REQUIREMENTS OF THE 50 PLF LINEAR LOAD AND 200 LB CONCENTRATED LOAD SPECIFIED IN ASCE 7 SECTION 4.5.1.
3. ADEQUACY OF THE EXISTING STRUCTURAL CONCRETE/MASONRY AND 2X FRAMING AS A MAIN WIND FORCE RESISTING SYSTEM CAPABLE OF WITHSTANDING AND TRANSFERRING APPLIED PRODUCT LOADS TO THE FOUNDATION IS THE RESPONSIBILITY OF THE ENGINEER OR ARCHITECT OF RECORD FOR THE PROJECT OF INSTALLATION.
4. THE INSTALLATION DETAILS DESCRIBED HEREIN ARE GENERIC AND MAY NOT REFLECT ACTUAL CONDITIONS FOR A SPECIFIC SITE. IF SITE CONDITIONS CAUSE INSTALLATION TO DEVIATE FROM THE REQUIREMENTS DETAILED HEREIN, A LICENSED ENGINEER OR ARCHITECT SHALL PREPARE SITE SPECIFIC DOCUMENTS FOR USE WITH THIS DOCUMENT.
5. APPROVED IMPACT PROTECTIVE SYSTEM **IS REQUIRED** ON THIS PRODUCT IN AREAS REQUIRING IMPACT RESISTANCE.
6. SPIGOT MATERIAL: DUPLEX 2205 STAINLESS STEEL
7. GLASS MEETS THE REQUIREMENTS OF ASTM E1300 GLASS CHARTS. SEE SHEET 1 FOR GLAZING DETAIL AND SHEET 3 FOR QUALIFIED GLASS OPTIONS.

INSTRUCTIONS FOR USE:

1. DETERMINE DESIGN WIND LOAD REQUIREMENTS BASED ON WIND VELOCITY, BUILDING HEIGHT, AND WIND ZONE USING THE APPLICABLE ASCE 7 STANDARD. (SEE SHEET 6 FOR TYPICAL WIND LOADS).
2. SEE DESIGN PRESSURE TABLES ON SHEET 3 FOR DESIGN LOAD CAPACITY OF DESIRED GLASS TYPE, SIZE, AND THE MAXIMUM RAILING HEIGHT BASED ON THE CONCENTRATED AND DISTRIBUTED LIVE LOADS.
3. SEE ANCHOR SCHEDULE AND CAPACITY TABLE ON SHEET 4.
4. FOR CAP RAIL OPTIONS AND ALLOWABLE SPANS REFER TO SHEET 5.

TABLE OF CONTENTS	
SHEET	SHEET DESCRIPTION
1	GENERAL NOTES AND GLAZING DETAIL
2	ELEVATIONS
3	GLASS ALLOWABLE DESIGN PRESSURE TABLES
4	ANCHOR SCHEDULE & ANCHOR CAPACITY TABLE
5	CAP RAIL TYPES AND ALLOWABLE SPANS
6	ALLOWABLE WIND LOADS PER ASCE 7
7	WIND SPEED MAP



GLAZING DETAIL

GLAZING NOTES:

1. GLASS TYPE COMPLIES WITH ASTM E1300 REQUIREMENTS. PER THE IBC TEMPER AND SAFETY GLAZING REQUIREMENTS SHALL BE REVIEWED ON A SITE SPECIFIC BASIS.
2. SETTING BLOCK DUROMETER HARDNESS OF 70-90 (SHORE A) AS REFERENCED IN IBC CHAPTER 24.
3. SETTING BLOCKS TO BE LOCATED AT 1/4 SPAN LENGTH FOR GLASS WIDER THAN 36" AS PER IBC CHAPTER 24.
4. D.L.O. AND DESIGN PRESSURES MAY NOT EXCEED MAX VALUES SHOWN HEREIN.

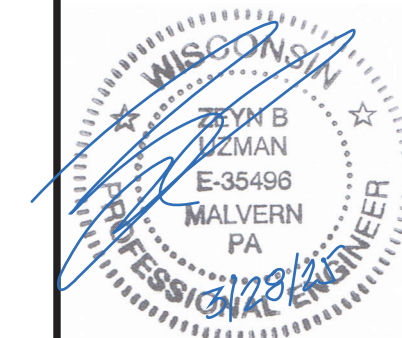
TITLE: ARA-BPSQ GLASS SPIGOT RAILING
GENERAL NOTES AND GLAZING DETAIL

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REMARKS	BY	DATE

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CHK. BY: HFN

SCALE: NTS

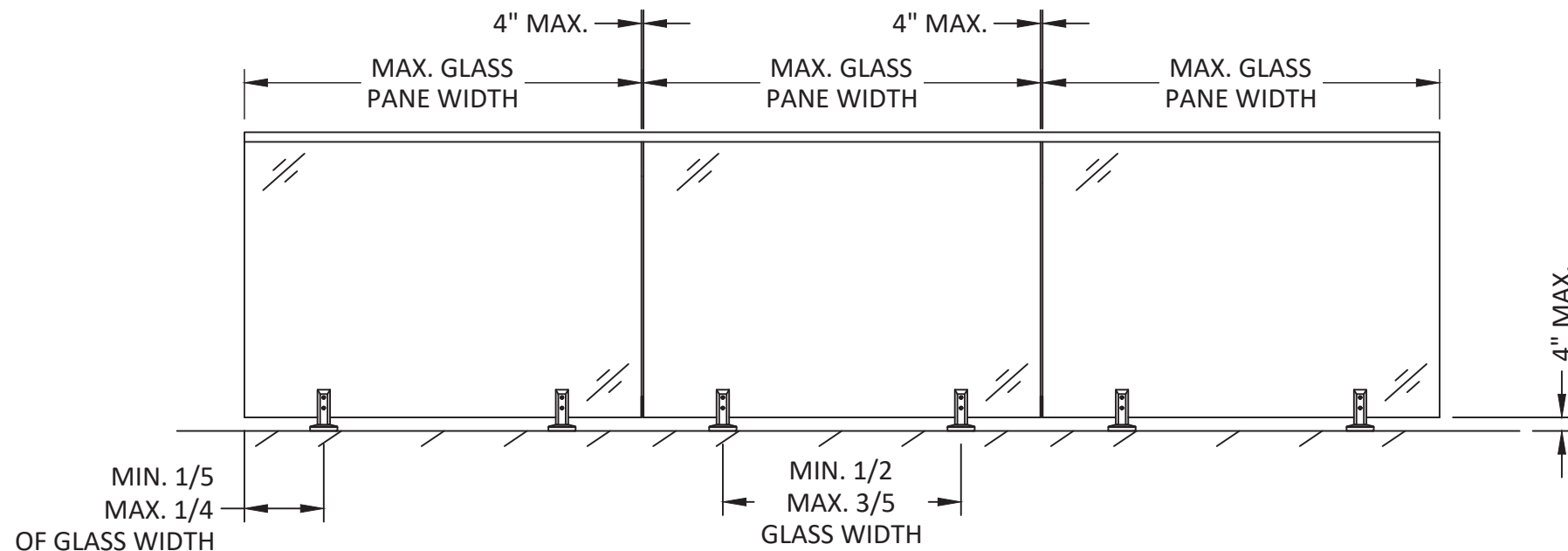
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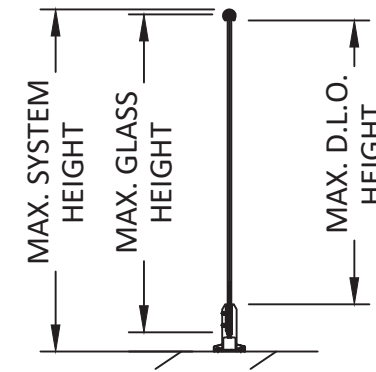
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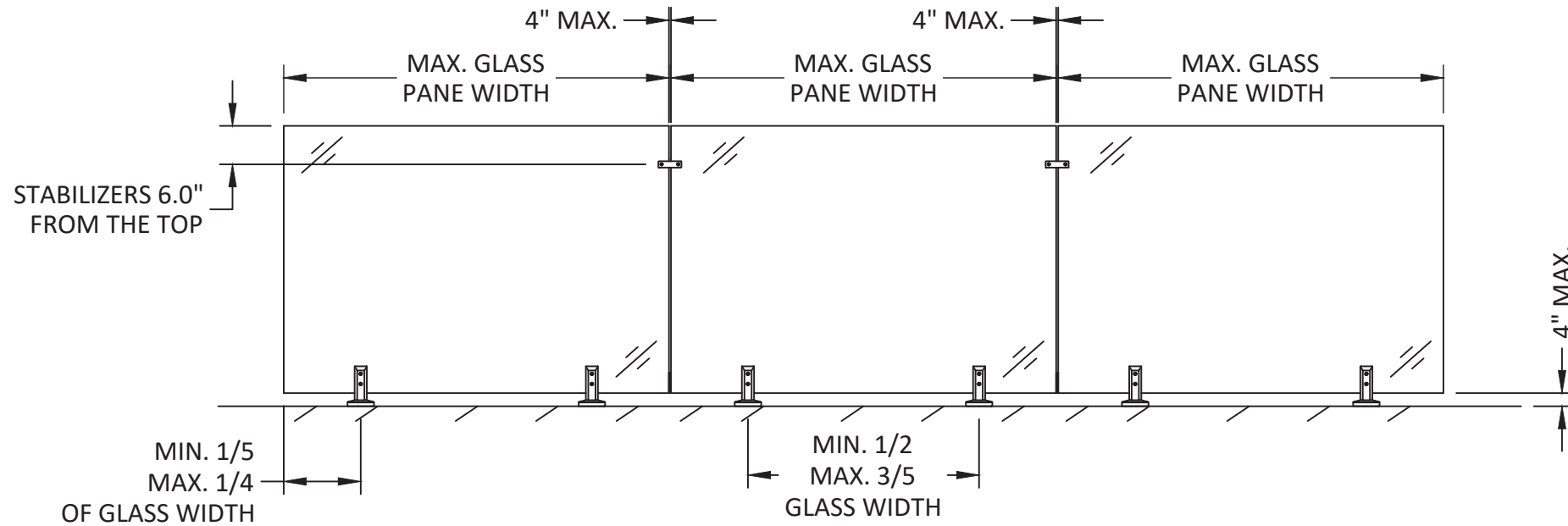
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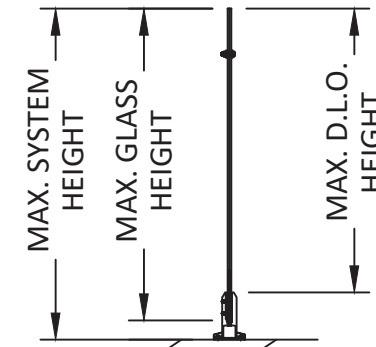
TYPICAL GLASS SPIGOT ELEVATION W/ CAP RAIL



TYPICAL VERTICAL SECTION

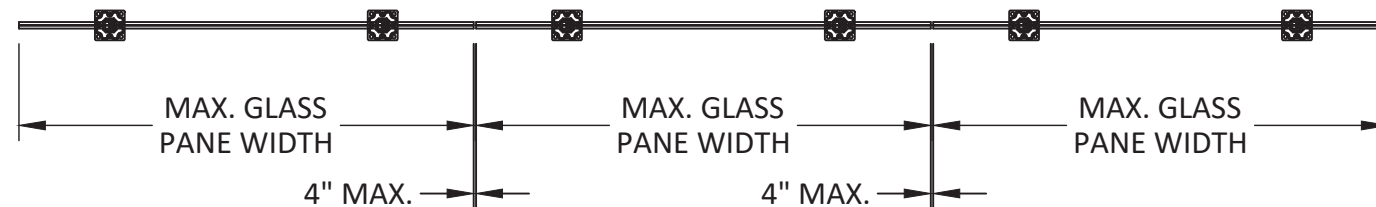


TYPICAL GLASS SPIGOT ELEVATION W/ STIFFENER CLAMP



TYPICAL VERTICAL SECTION

NOTE: SEE SHEET 3 FOR DESIGN PRESSURE TABLES AND SHEET 4 FOR ANCHOR DETAILS.



TYPICAL TOP VIEW

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ELEVATIONS

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SCALE:	NTS
DWG. #:	GLW005

SHEET: 2 OF 7

ALLOWABLE WIND LOAD TABLES BASED ON GLASS TYPE

TABLE 1: 1/2" MONOLITHIC TEMPERED GLASS

ALLOWABLE WIND LOAD (PSF)					
GLASS HEIGHT (in.)	GLASS WIDTH (in.)				
	36	48	60	68	72
36	39.64	31.00	24.96	22.13	20.93
42	28.70	22.18	18.01	15.98	15.13
48	21.36	16.56	13.51	12.00	11.36
60	13.36	10.41	8.51	8.51	7.15

TABLE 2: 7/16" O.A. LAMINATED GLASS: 3/16" TEMPERED GLASS - 0.060" PVB - 3/16" TEMPERED GLASS

ALLOWABLE WIND LOAD (PSF)					
GLASS HEIGHT (in.)	GLASS WIDTH (in.)				
	36	48	60	68	72
36	17.33	13.55	10.91	9.67	9.15
42	13.50	10.44	8.48	7.52	7.12
48	10.73	8.32	6.79	6.03	5.71
60	7.46	5.81	4.75	4.75	3.99

TABLE 3: 7/16" O.A. LAMINATED GLASS: 3/16" TEMPERED GLASS - 0.060" PVB ES - 3/16" TEMPERED GLASS

ALLOWABLE WIND LOAD (PSF)					
GLASS HEIGHT (in.)	GLASS WIDTH (in.)				
	36	48	60	68	72
36	23.30	18.22	14.67	13.01	12.31
42	17.92	13.85	11.25	9.98	9.45
48	13.96	10.82	8.83	7.84	7.43
60	9.29	7.24	5.91	5.91	4.97

TABLE 4: 7/16" O.A. LAMINATED GLASS: 3/16" TEMPERED GLASS - 0.060" SENTRYGLAS - 3/16" TEMPERED GLASS

ALLOWABLE WIND LOAD (PSF)					
GLASS HEIGHT (in.)	GLASS WIDTH (in.)				
	36	48	60	68	72
36	29.74	23.25	18.72	16.60	15.70
42	21.88	16.91	13.73	12.18	11.53
48	16.46	12.76	10.41	9.25	8.75
60	10.43	8.13	6.64	6.64	5.58

TABLE 5: 9/16" O.A. LAMINATED GLASS: 1/4" TEMPERED GLASS - 0.060" PVB - 1/4" TEMPERED GLASS

ALLOWABLE WIND LOAD (PSF)					
GLASS HEIGHT (in.)	GLASS WIDTH (in.)				
	36	48	60	68	72
36	23.83	18.63	15.00	13.30	12.58
42	18.45	14.26	11.58	10.27	9.72
48	14.60	11.32	9.23	8.20	7.76
60	10.12	7.89	6.44	6.44	5.42

TABLE 6: 9/16" O.A. LAMINATED GLASS: 1/4" TEMPERED GLASS - 0.060" PVB ES - 1/4" TEMPERED GLASS

ALLOWABLE WIND LOAD (PSF)					
GLASS HEIGHT (in.)	GLASS WIDTH (in.)				
	36	48	60	68	72
36	31.65	24.75	19.93	17.67	16.72
42	24.41	18.87	15.32	13.60	12.87
48	19.08	14.79	12.07	10.72	10.15
60	12.78	9.96	8.14	8.14	6.84

TABLE 7: 9/16" O.A. LAMINATED GLASS: 1/4" TEMPERED GLASS - 0.060" SENTRYGLAS - 1/4" TEMPERED GLASS

ALLOWABLE WIND LOAD (PSF)					
GLASS HEIGHT (in.)	GLASS WIDTH (in.)				
	36	48	60	68	72
36	41.35	32.33	26.03	23.08	21.84
42	30.51	23.58	19.15	16.99	16.08
48	22.99	17.83	14.55	12.92	12.23
60	14.61	11.38	9.30	9.30	7.82

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TITLE: ARA-BPSQ GLASS SPIGOT RAILING
GLASS ALLOWABLE DESIGN PRESSURE TABLES

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SCALE: NTS
DWG. #: GLW005

SHEET: 3 OF 7

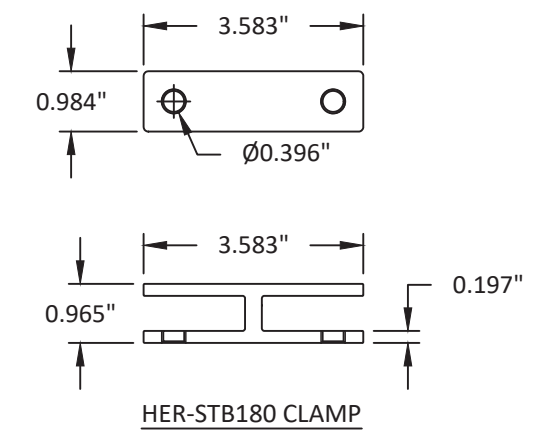
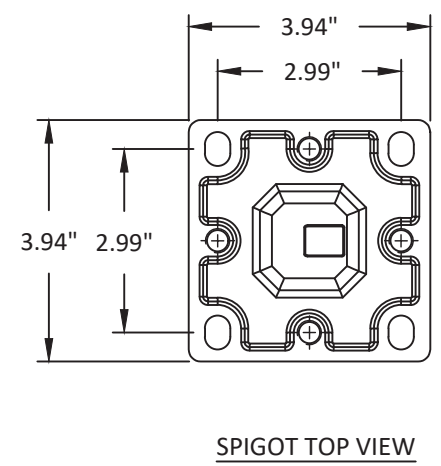
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NOTE:
CAP RAIL AND STIFFENER CLAMP MAY BE USED TOGETHER OR SEPARATELY. SEE SHEET 2 FOR TYPICAL ELEVATIONS.

SPIGOT BASE INSTALLATION ALLOWABLE WIND LOAD (PSF)					
GLASS HEIGHT (in.)	GLASS WIDTH (in.)				
	36	48	60	68	72
36	142.51	106.88	85.50	75.45	71.25
42	102.94	77.20	61.76	54.50	51.47
48	77.82	58.36	46.69	41.20	38.91
60	48.94	36.70	29.36	25.91	24.47

ANCHOR SCHEDULE				
SUBSTRATE	ANCHOR SCHEDULE	MIN. EMBEDMENT	MIN. EDGE DISTANCE	QUANTITY
WOOD: MIN. SG = 0.55	5/16" ASTM F593 BOLT	3.00"	1.00"	4 PER SPIGOT
CONCRETE: $f'_c=3000$ PSI	1/4" DEWALT SCREW-BOLT+	2.50"	2.50"	4 PER SPIGOT
STEEL: $F_y = 33$ KSI MIN. (16 GAUGE MIN.)	5/16" ASTM F593 BOLT	THREE THREADS MIN. PENETRATION PAST STRUCTURE	0.50"	4 PER SPIGOT



GLASSWAREHOUSE FUTUREGLASS

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ANCHOR SCHEDULE & ANCHOR CAPACITY TABLE

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SHEET: 4 OF 7

CAP RAIL TYPES AND MAX. ALLOWABLE SPANS



COR-AHS CAP RAIL:

- SIMPLY SUPPORTED: 14.75 FT
- CANTILEVER: 5.42 FT



DRA-AHR42 CAP RAIL:

- SIMPLY SUPPORTED: 10.42 FT
- CANTILEVER: 2.67 FT



AGE-SHR42 CAP RAIL:

- SIMPLY SUPPORTED: 10.92 FT
- CANTILEVER: 3.0 FT



HG25S XS CAP RAIL:

- SIMPLY SUPPORTED: 5.08 FT
- CANTILEVER: 1.0 FT



MAT-SHS CAP RAIL:

- SIMPLY SUPPORTED: 10.58 FT
- CANTILEVER: 2.75 FT



NOTE:
CANTILEVER SPAN ONLY APPLIES WHEN TOP RAIL IS NOT FIXED TO A STRUCTURE.
IF CAP RAIL IS FIXED TO A STRUCTURE, USE SIMPLY SUPPORTED MAX ALLOWABLE SPAN.

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CAP RAIL TYPES & ALLOWABLE SPANS

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SHEET: 5 OF 7

TYP. ALLOWABLE WIND LOADS

ALLOWABLE WIND LOADS (PSF)						
WIND SPEED (MPH)	W _{ASD} FOR Cf = 1.3			W _{ASD} FOR Cf = 2.6		
	EXP. B K _Z = 0.7	EXP. C K _Z = 0.85	EXP. D K _Z = 1.03	EXP. B K _Z = 0.7	EXP. C K _Z = 0.85	EXP. D K _Z = 1.03
100	9.50	11.53	13.98	19.00	23.07	27.95
110	11.49	13.95	16.91	22.98	27.91	33.82
120	13.68	16.61	20.12	27.35	33.21	40.25
130	16.05	19.49	23.62	32.10	39.98	47.24
140	18.62	22.60	27.39	37.23	45.21	54.78
150	21.37	25.95	31.44	42.74	51.90	62.89
160	24.31	29.52	35.78	48.63	59.05	71.55
170	27.45	33.33	40.39	54.90	66.66	80.78
180	30.77	37.37	45.28	61.54	74.73	90.56

PREMISES FOR WIND LOADS:

1. WIND LOADS ARE BASED ON ASCE 7.
2. THE FOLLOWING ASSUMPTIONS HAVE BEEN MADE:
 - a. K_d = 0.85
 - b. K_{zt} = 1.0
 - c. MAX. HEIGHT, Z = 15 FT
3. Cf VALUES SHOWN ON TABLE ARE TWO OF THE TYPICAL EXTREME VALUES. FOR OTHER Cf VALUES MULTIPLY THE WIND LOAD BY Cf/1.3 OR REFER TO ASCE 7 FOR MORE DETAILS.
4. FOR HEIGHTS ABOVE 15 FT REFER TO ASCE 7 FOR ADDITIONAL FACTORS.
5. WIND LOADS DISPLAYED ARE GENERIC AND MAY NOT REFLECT THE JOBSITE CONDITIONS. IF SITE SPECIFIC WIND LOADS ARE REQUIRED A LICENSED ENGINEER SHALL PREPARE SITE SPECIFIC WIND LOADS FOR USE WITH THIS PRODUCT.
6. REFER TO SHEET 7 FOR A RISK CATEGORY II WIND SPEED MAP PER ASCE 7.

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TITLE: ARA-BPSQ GLASS SPIGOT RAILING
ALLOWABLE WIND LOADS PER ASCE 7

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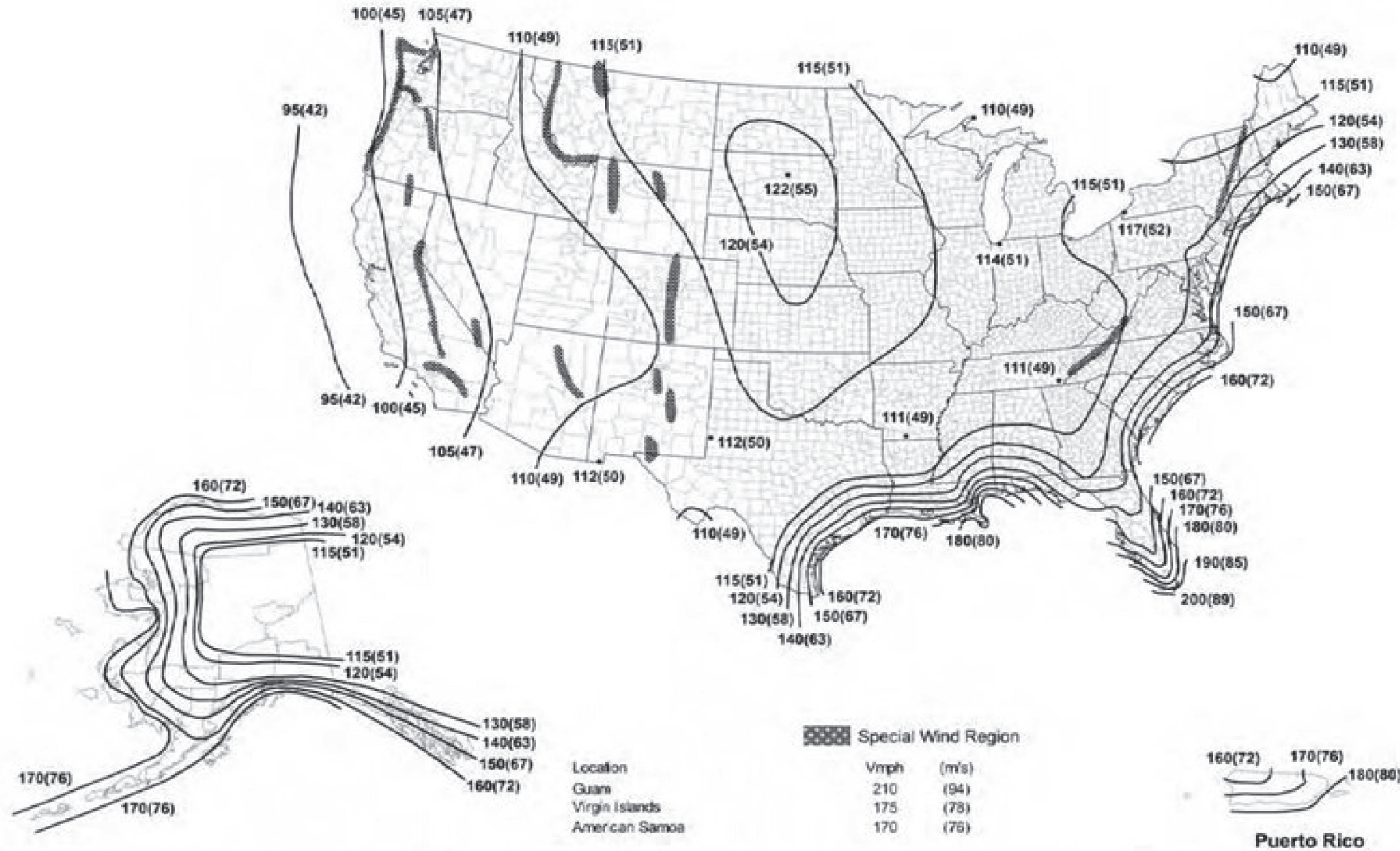
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6
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WIND SPEED MAP

mph (m/sec.)



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WIND SPEED MAP

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7

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