

Texas Windstorm Insurance Association 2022 Catastrophe Year Disclosure to the Commissioner
Section 2210.453 of the Texas Insurance Code and 28 Texas Administrative Code §5.4160

Disclosure Requirement	Model #1	Model #2
§5.4160(d)(1) The hurricane model or models the Association relied on, including the model vendors, the model names, and the versions of each model;	<p>Model Vendor: Risk Management Solutions, Inc. (RMS)</p> <p>Model Name: North Atlantic Windstorm Model</p> <p>Model Version: RMS RiskLink 21.0 Windstorm/Hurricane and Convective Storm (WS/CS)</p>	<p>Model Vendor: AIR Worldwide Corporation</p> <p>Model Name: AIR Tropical Cyclone Model for the United States</p> <p>Model Version: AIR Touchstone 9.0 Tropical Cyclone (TC) and Severe Thunderstorm (ST)</p>
§5.4160(d)(2) The in-force date and the total amount of direct exposures in force for the policy data used as the input for each hurricane model the association relied on;	<p>In-force Date: 11/30/2021</p> <p>Direct Exposures: Total Insured Values (TIV): \$70,833,471,461 Total Policy Limits: \$65,223,101,644 Risk Count: 202,136</p>	<p>In-force Date: 11/30/2021</p> <p>Direct Exposures: Total Insured Values (TIV): \$70,833,471,461 Total Policy Limits: \$65,223,101,644 Risk Count: 202,136</p>
§5.4160(d)(3) All user-selected hurricane model input assumptions used with each hurricane model the association relied on;	<p>Assumptions:</p> <ul style="list-style-type: none"> - All Perils (Windstorm/Hurricane and Severe Convective Storms). - Aggregate Annual Loss estimate. - Windstorm frequency –RMS 2021 Stochastic (Near Term) Event Rates. - Severe Convective Storm frequency – RMS 2013 Stochastic Event Rates (High and Low frequency). - With post-event loss amplification (PLA) (“Demand Surge”) for Windstorm /Hurricane; Severe Convective Storm excludes loss amplification. - Without Storm Surge. 	<p>Assumptions:</p> <ul style="list-style-type: none"> - All Perils (Tropical Cyclone - Wind and Severe Thunderstorm). - Aggregate Annual Loss estimate. - Tropical Cyclone frequency - 10K US AP (2020) Warm Sea Surface Temperatures (WSST) frequency set. - Severe Thunderstorm frequency - 10K US AP (2020) – Standard. - With Demand Surge for Tropical Cyclone - Wind and Severe Thunderstorm. - Without Storm Surge.
§5.4160(d)(4) The one-in-100-year probable maximum loss model output produced by each hurricane model the Association relied on;	One-in-100-year PML: \$3,091,511,058	One-in-100-year PML: \$4,540,357,178

<p>§5.4160(d)(5)</p>	<p>If the association relied on more than one hurricane model, the methodology the association used to blend or average the hurricane model outputs, including all weighting factors used;</p>	<p>Blending methodology: The aggregate annual loss output from each of the two models described herein were combined using a weighting of 25% RMS, 25% AIR, 25% IF, and 25% RQE to produce a combined one-in-100-year aggregate loss estimate of \$3,683,719,259 excluding any provision for estimated loss adjustment expenses.</p>	<p>Blending methodology: The aggregate annual loss output from each of the two models described herein were combined using a weighting of 25% RMS, 25% AIR, 25% IF, and 25% RQE to produce a combined one-in-100-year aggregate loss estimate of \$3,683,719,259 excluding any provision for estimated loss adjustment expenses.</p>
<p>§5.4160(d)(6)</p>	<p>Any adjustments the association or another party made to the one-in-100-year probable maximum loss model outputs or the blended or averaged output, including any adjustments to include loss adjustment expenses.</p>	<p>Adjustments: The combined one-in-100-year aggregate loss estimate described in §5.4160(d)(5) was increased by a factor of 15% to account for estimated loss adjustment expenses to yield \$4,236,277,148. This amount was rounded to the nearest \$1 million to derive the one-in-100-year probable maximum loss for the calendar year 2022 of \$4,236,000,000.</p>	<p>Adjustments: The combined one-in-100-year aggregate loss estimate described in §5.4160(d)(5) was increased by a factor of 15% to account for estimated loss adjustment expenses to yield \$4,236,277,148. This amount was rounded to the nearest \$1 million to derive the one-in-100-year probable maximum loss for the calendar year 2022 of \$4,236,000,000.</p>

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Disclosure Requirement	Model #3	Model #4
§5.4160(d)(1) The hurricane model or models the Association relied on, including the model vendors, the model names, and the versions of each model;	<p>Model Vendor: Impact Forecasting (IF) Model Name: Atlantic Tropical Cyclone and Severe Convective Storm Models Model Version: Impact Forecasting ELEMENTS 15.0 Atlantic Tropical Cyclone and Severe Convective Storm</p>	<p>Model Vendor: CoreLogic (CL) Model Name: CoreLogic North Atlantic Hurricane and Severe Convective Storm Models Model Version: CoreLogic Risk Quantification & Engineering (RQE) v21 North Atlantic Hurricane (HU) and Severe Convective Storm (SCS)</p>
§5.4160(d)(2) The in-force date and the total amount of direct exposures in force for the policy data used as the input for each hurricane model the association relied on;	<p>In-force Date: 11/30/2021 Direct Exposures: Total Insured Values (TIV): \$70,833,471,461 Total Policy Limits: \$65,223,101,644 Risk Count: 202,136</p>	<p>In-force Date: 11/30/2021 Direct Exposures: Total Insured Values (TIV): \$70,833,471,461 Total Policy Limits: \$65,223,101,644 Risk Count: 202,136</p>
§5.4160(d)(3) All user-selected hurricane model input assumptions used with each hurricane model the association relied on;	<p>Assumptions:</p> <ul style="list-style-type: none"> - All Perils (Atlantic Tropical Cyclone - Wind and Severe Convective Storms). - Aggregate Annual Loss estimate. - Atlantic Tropical Cyclone v2.0 – Wind Only Stochastic (Near Term) Event Rates. - 48-State Severe Convective Storm v1.0 – All sub-perils. - With Demand Surge for Tropical Cyclone and Severe Convective Storm. - Without Storm Surge. 	<p>Assumptions:</p> <ul style="list-style-type: none"> - All Perils (North Atlantic Hurricane and Severe Convective Storm). - Aggregate Annual Loss estimate. - North Atlantic Hurricane v21 – Wind Only 300k Stochastic (Near Term) Event Set. - Severe Thunderstorm frequency - Standard. - With Demand Surge for North Atlantic Hurricane and Severe Convective Storm. - Without Storm Surge.
§5.4160(d)(4) The one-in-100-year probable maximum loss model output produced by each hurricane model the Association relied on;	<p>One-in-100-year PML: \$3,600,975,648</p>	<p>One-in-100-year PML: \$3,502,033,152</p>

<p>§5.4160(d)(5)</p>	<p>If the association relied on more than one hurricane model, the methodology the association used to blend or average the hurricane model outputs, including all weighting factors used;</p>	<p>Blending methodology: The aggregate annual loss output from each of the two models described herein were combined using a weighting of 25% RMS, 25% AIR, 25% IF, and 25% RQE to produce a combined one-in-100-year aggregate loss estimate of \$3,683,719,259 excluding any provision for estimated loss adjustment expenses.</p>	<p>Blending methodology: The aggregate annual loss output from each of the two models described herein were combined using a weighting of 25% RMS, 25% AIR, 25% IF, and 25% RQE to produce a combined one-in-100-year aggregate loss estimate of \$3,683,719,259 excluding any provision for estimated loss adjustment expenses.</p>
<p>§5.4160(d)(6)</p>	<p>Any adjustments the association or another party made to the one-in-100-year probable maximum loss model outputs or the blended or averaged output, including any adjustments to include loss adjustment expenses.</p>	<p>Adjustments: The combined one-in-100-year aggregate loss estimate described in §5.4160(d)(5) was increased by a factor of 15% to account for estimated loss adjustment expenses to yield \$4,236,277,148. This amount was rounded to the nearest \$1 million to derive the one-in-100-year probable maximum loss for the calendar year 2022 of \$4,236,000,000.</p>	<p>Adjustments: The combined one-in-100-year aggregate loss estimate described in §5.4160(d)(5) was increased by a factor of 15% to account for estimated loss adjustment expenses to yield \$4,236,277,148. This amount was rounded to the nearest \$1 million to derive the one-in-100-year probable maximum loss for the calendar year 2022 of \$4,236,000,000.</p>

Exhibit A

Additional information under §5.4160(d)(3) All user-selected hurricane model input assumptions used with each hurricane model the association relied on.

RMS settings

Modeling Parameters

Portfolio	Hurricane Near Term	Hurricane Long Term	Severe Convective Storm
Vendor	RMS	RMS	RMS
Model	RiskLink	RiskLink	RiskLink
Version	21.0	21.0	21.0
In-Force	11/30/2021	11/30/2021	11/30/2021
Peril	Windstorm/Hurricane	Windstorm/Hurricane	Convective Storm
Primary Peril	Wind	Wind	Tornado
Sec Peril	None (excludes Storm Surge)	None (excludes Storm Surge)	Hail + Wind
Event Losses Include	NA	NA	Low Freq (OEP); Low+High Freq (AEP)
Country	United States	United States	United States
Currency	USD	USD	USD
PLA/DS	with Loss Amplification	with Loss Amplification	excludes Loss Amplification (not an option)
Vulnerability	Default	Default	Default
Frequency	RMS 2021 Stochastic Event Rates	RMS 2021 Historical Event Rates	RMS 2013 Stochastic Event Rates

AIR settings

Modeling Parameters

Portfolio	Hurricane Near Term	Hurricane Long Term	Severe Convective Storm
Vendor	AIR	AIR	AIR
Model	Touchstone	Touchstone	Touchstone
Version	9.0	9.0	9.0
In-Force	11/30/2021	11/30/2021	11/30/2021
Peril	Tropical Cyclone - Wind	Tropical Cyclone - Wind	Severe Thunderstorm
Sec Peril	None (excludes Storm Surge)	None (excludes Storm Surge)	Hail + Straight-Line Winds + Tornado
Country	United States	United States	United States
Currency	USD	USD	USD
PLA/DS	with Demand Surge	with Demand Surge	with Demand Surge
Frequency	10K US AP (2020) - Warm SST	10K US AP (2020) - Standard	10K US AP (2021) - Standard
Financial Settings	Disaggregation: ON; Average Properties: Automatic; For Invalid Con/Occ Pairs: Use System Default;		
All Perils	Apply location terms for residential contracts: Deductibles before limits		

IF settings

Modeling Parameters

Portfolio	Hurricane Near Term	Hurricane Long Term	Severe Convective Storm
Vendor	Impact Forecasting	Impact Forecasting	Impact Forecasting
Model	ELEMENTS	ELEMENTS	ELEMENTS
Version	15.0	15.0	15.0
In-Force	11/30/2021	11/30/2021	11/30/2021
Peril	Atlantic Tropical Cyclone v2.0 - Wind	Atlantic Tropical Cyclone v2.0 - Wind	Severe Convective Storm
Sec Peril	None (excludes Storm Surge)	None (excludes Storm Surge)	All subperils
Country	United States	United States	United States
Currency	USD	USD	USD
PLA/DS	with Demand Surge	with Demand Surge	with Demand Surge
Vulnerability	Default	Default	Default
Frequency	Near-Term	Long-Term	48-State Severe Convective Storm v1.0

CL settings

Modeling Parameters

Portfolio	Hurricane Near Term	Hurricane Long Term	Severe Convective Storm
Vendor	CoreLogic	CoreLogic	CoreLogic
Model	Risk Quantification & Engineering (RQE)	Risk Quantification & Engineering (RQE)	Risk Quantification & Engineering (RQE)
Version	21.0	21.0	21.0
In-Force	11/30/2021	11/30/2021	11/30/2021
Peril	North Atlantic Hurricane - Wind	North Atlantic Hurricane - Wind	Severe Convective Storm
Sec Peril	None (excludes Storm Surge)	None (excludes Storm Surge)	All subperils
Country	United States	United States	United States
Currency	USD	USD	USD
PLA/DS	with Demand Surge	with Demand Surge	with Demand Surge
Frequency	Hurricane, North Atlantic - U.S. Mainland Landfalling/Bypassing - Near Term	Hurricane, North Atlantic - U.S. Mainland Landfalling/Bypassing	Severe Convective Storm, U.S. - Optimized

General Information about exposure data for model inputs

- Data is current as of November 30, 2021.
- Each record in the data set represents one risk, defined as a single building and/or location.
- The data included 192,184 policies and 202,136 locations.
- The following process is taken for geocoding:
 1. Import/geocode in AIR.
 2. Convert to RMS and preserve user supplied lat/long include in the AIR import files.
 3. Geocode in RMS using the user supplied lat/long.
 4. Utilize geocoded county detail for reporting purposes.
- The perils of hurricane and tornado/hail will be modeled in RMS RiskLink v21.0, AIR Touchstone v9.0, IF ELEMENTS v15.0, and CL RQE v21.0.
- The data was reported with a “Wind Excluded” flag of N for all policies. Therefore, all policies will be assumed to be covered for hurricane.
- All data assumptions to follow will be based on 192,184 policies and 202,136 locations.

Deductibles

- Building and Contents deductibles were reported as coverage level for Commercial, Residential, and Mobile Home and will be modeled as reported.

Limits and Values

- Limits and values were provided for Building, Contents and Time Element. There were no limits or values provided for Appurtenant Structures. It is included in the Building coverage. Per TWIA’s instruction, only the value field should be used as model input. The reported coverage limit is to be used where the reported value is zero (the only cases were 10,574 Contents in this data set).
- Site blanket limits were provided for all records as the sum of the site coverage limit fields subject to the statutory limits. These will be used to cap losses at the site level.

Risk Characteristics

- Construction was reported and will be modeled as follows:

TWIA Code	Site Limit	Risk Count	RMS Code	AIR Code	IF Code	CL Code
Brick	3,200,836,655	8,940	2	111	MAS	MAS
Brick Veneer	33,730,080,141	95,142	1 w/ Clad Sys 1	103	WD	TIM
Frame	25,986,505,707	92,795	1	101	WD	TIM
Not Applicable*	52,690,921	912	5B	194	MHT	MOB
Semi Wind Resistant	943,869,712	1,035	4	182	ST	STL
Wind Resistant	1,278,705,857	2,805	4	183	ST	STL
Not Applicable	30,412,651	507	0	100	UNK	UNK
Total	65,223,101,644	202,136				

*2020 Assumptions are named "MH Tied (set based on Type of Business)"

- Occupancy was reported and will be modeled as follows:

Occupancy Type	Site Limit	Risk Count	RMS ATC Code	AIR Code	IF Code	CL Code
Commercial	830,000	4	1	302	R	RES
Commercial	452,327,865	955	2	303	R	RESAPT
Commercial	1,765,714,772	1,669	2	306	R	RESAPT
Commercial	3,974,471,290	9,135	37	311	Com	COM
Commercial	92,292,283	120	22	341	EdGovOrg	COMEDU
Commercial	5,494,252	4	25	346	EdGovOrg	MUNEDU
Commercial Farm	11,607,045	93	20	373	Agri	AGR
Governmental	237,951,938	98	25	346	EdGovOrg	MUNEDU
Manufactured Home	52,690,921	912	1	302	R	RES
Residential	57,221,219,166	178,295	1	302	R	RES
Residential	726,407,591	3,870	2	303	R	RESAPT
Residential	614,534,083	6,795	2	306	R	RESAPT
Residential	2,412,400	34	37	311	Com	COM
Residential Farm	65,148,038	152	1	302	R	RES
Total	65,223,101,644	202,136				

- The number of stories was reported and will be modeled if valid. There are 3,427 locations with no number of stories that will be modeled as unknown.
- Year built was reported and will be modeled if valid. There are 912 locations with no year built that will be modeled as unknown. Also, 1 location with a year built greater than the inception date year will be reset to the inception date year. Total limits, by year of construction band, to be modeled will be as follows:

Year Built	Site Limit	Risk Count
Unknown	52,690,921	912
<= 1994	35,005,251,225	125,569
1995 - 2001	7,454,340,300	19,112
2002 - 2008	11,494,376,821	28,893
>= 2009	11,216,442,377	27,650
Total	65,223,101,644	202,136

- Square footage was reported and will be modeled if valid. 9,267 locations with no square footage or square footage greater than 2M will be modeled as unknown. Currently, RMS only uses square footage for residential and low-rise commercial structures. For AIR, this field is only used for larger high value homes for the hurricane peril.
- The following pages includes details regarding occupancy and secondary modifier updates.

Texas Windstorm Insurance Association

Data as of 11/30/2021

Occupancy

Use the field "CLASS_CD" in PC data for occupancy if provides better detail and significant TIV contribution. Otherwise use the "Occupancy_Type" reported in Location data.

Occupancy_Type	CLASS_CODE	Site Limit	Risk Count	% of Limit	RMS Code	AIR Code	IF Code	CL Code	Occupancy_Type	CLASS_CODE	Site Limit	Risk Count	% of Limit	RMS Code	AIR Code	IF Code	CL Code
Commercial	A03	3,708,754	5	0.0%	2	303	R	RESAPT	Commercial Farm	F03	4,700,045	48	0.0%	20	373	Agri	AGR
Commercial	A04	96,488,611	363	0.1%	2	303	R	RESAPT	Commercial Farm	F04	95,000	9	0.0%	20	373	Agri	AGR
Commercial	A05	2,000,000	1	0.0%	2	303	R	RESAPT	Commercial Farm	F05	6,812,000	36	0.0%	20	373	Agri	AGR
Commercial	A06	194,808,335	307	0.3%	2	303	R	RESAPT	Governmental	CML03a	47,633,289	44	0.1%	25	346	EdGovOrg	MUNEDU
Commercial	A10	500,000	1	0.0%	2	303	R	RESAPT	Governmental	CML04a	190,318,649	54	0.3%	25	346	EdGovOrg	MUNEDU
Commercial	A12	2,410,132	24	0.0%	2	303	R	RESAPT	Manufactured Home	MH1	52,231,921	898	0.1%	1	302	R	RES
Commercial	B01	27,034,500	69	0.0%	37	311	Com	COM	Manufactured Home	MH2	270,000	4	0.0%	1	302	R	RES
Commercial	B02	77,000	4	0.0%	37	311	Com	COM	Manufactured Home	MH3	189,000	10	0.0%	1	302	R	RES
Commercial	B03A	3,580,600	12	0.0%	37	311	Com	COM	Residential	A02	25,060,915	151	0.0%	2	303	R	RESAPT
Commercial	B03B	36,315,404	162	0.1%	37	311	Com	COM	Residential	A08	10,000	1	0.0%	2	303	R	RESAPT
Commercial	B06	215,750	1	0.0%	37	311	Com	COM	Residential	A15	3,169,000	78	0.0%	2	303	R	RESAPT
Commercial	B06D	37,785,239	28	0.1%	37	311	Com	COM	Residential	A17	11,899,574	336	0.0%	2	303	R	RESAPT
Commercial	B07	370,558,634	915	0.6%	37	311	Com	COM	Residential	A18	206,440	6	0.0%	2	303	R	RESAPT
Commercial	B09A	250,000	2	0.0%	37	311	Com	COM	Residential	CML10	2,412,400	34	0.0%	37	311	Com	COM
Commercial	B09B	830,000	4	0.0%	1	302	R	RES	Residential	CON13	222,574,517	2,322	0.3%	2	306	R	RESAPT
Commercial	B10	20,549,876	21	0.0%	37	311	Com	COM	Residential	CON14	345,555,191	4,313	0.5%	2	306	R	RESAPT
Commercial	B12	300,000	1	0.0%	37	311	Com	COM	Residential	D01	5,846,576	8	0.0%	1	302	R	RES
Commercial	B12D	6,096,000	6	0.0%	37	311	Com	COM	Residential	D02	56,970,366,447	174,080	87.3%	1	302	R	RES
Commercial	CML01	2,194,622,095	4,880	3.4%	37	311	Com	COM	Residential	D04	242,800	1	0.0%	1	302	R	RES
Commercial	CML02	905,633,482	569	1.4%	37	311	Com	COM	Residential	D06	83,375,349	1,161	0.1%	1	302	R	RES
Commercial	CML05	252,334,808	1,409	0.4%	37	311	Com	COM	Residential	D08	146,652,171	2,560	0.2%	1	302	R	RES
Commercial	CML08	92,292,283	120	0.1%	22	341	EdGovOrg	COMEDU	Residential	D10	2,338,300	46	0.0%	1	302	R	RES
Commercial	CML09	5,494,252	4	0.0%	25	346	EdGovOrg	MUNEDU	Residential	D12	299,222,959	1,346	0.5%	2	303	R	RESAPT
Commercial	CML11	26,211,005	46	0.0%	37	311	Com	COM	Residential	D15	40,000	1	0.0%	2	303	R	RESAPT
Commercial	CON01	685,879,865	242	1.1%	2	306	R	RESAPT	Residential	D16	3,529,188	74	0.0%	2	303	R	RESAPT
Commercial	CON02	805,597,651	865	1.2%	2	306	R	RESAPT	Residential	D17	1,662,852	98	0.0%	1	302	R	RES
Commercial	CON03	14,619,597	37	0.0%	2	306	R	RESAPT	Residential	D18	2,599,098	89	0.0%	1	302	R	RES
Commercial	CON04	30,390,330	196	0.0%	2	306	R	RESAPT	Residential	F18	2,228,440	21	0.0%	1	302	R	RES
Commercial	CON06	722,800	26	0.0%	2	306	R	RESAPT	Residential	M4	873,000	36	0.0%	1	302	R	RES
Commercial	CON08	13,545,628	13	0.0%	2	306	R	RESAPT	Residential	M4b	1,225,700	66	0.0%	1	302	R	RES
Commercial	CON09	226,000	1	0.0%	2	306	R	RESAPT	Residential	M4c	2,507,007	89	0.0%	1	302	R	RES
Commercial	F07	4,424,000	1	0.0%	37	311	Com	COM	Residential	M4d	2,000	1	0.0%	1	302	R	RES
Commercial	M1	33,758,976	267	0.1%	37	311	Com	COM	Residential	M4f	5,000	1	0.0%	1	302	R	RES
Commercial	M1a	154,288	5	0.0%	37	311	Com	COM	Residential	M4h	1,163,125	29	0.0%	1	302	R	RES
Commercial	M5a	30,000	3	0.0%	37	311	Com	COM	Residential	M4j	131,300	9	0.0%	1	302	R	RES
Commercial	M5b	666,000	16	0.0%	37	311	Com	COM	Residential	P02	58,625,158	277	0.1%	2	303	R	RESAPT
Commercial	M5d	1,939,524	9	0.0%	37	311	Com	COM	Residential	T05	994,000	1	0.0%	2	303	R	RESAPT
Commercial	M5e	20,000	1	0.0%	37	311	Com	COM	Residential	T06	252,924,776	859	0.4%	2	303	R	RESAPT
Commercial	M5f	4,650,276	32	0.0%	37	311	Com	COM	Residential	T09	100,000	1	0.0%	2	303	R	RESAPT
Commercial	M5g	20,000	1	0.0%	37	311	Com	COM	Residential	T10	70,625,580	739	0.1%	2	303	R	RESAPT
Commercial	M5h	7,736,195	116	0.0%	37	311	Com	COM	Residential	T12	46,404,375	160	0.1%	2	306	R	RESAPT
Commercial	M5j	2,400,441	52	0.0%	37	311	Com	COM	Residential Farm	F01	64,704,038	149	0.1%	1	302	R	RES
Commercial	M5k	440,527	23	0.0%	37	311	Com	COM	Residential Farm	F02	444,000	3	0.0%	1	302	R	RES
Commercial	M5l	753,199	43	0.0%	37	311	Com	COM	Total		65,223,101,644	202,136	100.0%				
Commercial	M5m	24,613,990	118	0.0%	37	311	Com	COM									
Commercial	M5o	6,691,232	117	0.0%	37	311	Com	COM									
Commercial	M5p	50,480	2	0.0%	37	311	Com	COM									
Commercial	M5q	3,889,688	128	0.0%	37	311	Com	COM									
Commercial	M5r	311,857	67	0.0%	37	311	Com	COM									
Commercial	M5s	16,224	3	0.0%	37	311	Com	COM									
Commercial	M5t	100,000	2	0.0%	37	311	Com	COM									
Commercial	M5u	220,000	4	0.0%	37	311	Com	COM									
Commercial	P05	17,221,029	4	0.0%	2	303	R	RESAPT									
Commercial	P06	135,191,004	250	0.2%	2	303	R	RESAPT									
Commercial	P09	4,424,000	1	0.0%	2	306	R	RESAPT									
Commercial	P10	2,048,078	7	0.0%	2	306	R	RESAPT									
Commercial	T01	14,225,000	8	0.0%	2	306	R	RESAPT									
Commercial	T02	191,687,423	264	0.3%	2	306	R	RESAPT									
Commercial	T16	2,348,400	9	0.0%	2	306	R	RESAPT									

Texas Windstorm Insurance Association

Data as of 11/30/2021

Roof Cover by Model and Peril and AIR Roof Hail Impact Resistance (SCS only)

AIR Roof Cover Description	AIR Code	Hurricane			Site Limit	Risk Count	% of Limit
		RMS Code	IF Code	CL Code			
Unknown	0	0	0	0	1,294,164,365	6,900	2.0%
Asphalt Shingles	1	7	1	1	36,608,148,739	125,836	56.1%
Wooden Shingles	2	6	0	9	84,070,223	264	0.1%
Clay/Concrete Tiles	3	5	2	10	1,827,682,875	3,321	2.8%
Light Metal Panel	4	2	3	8	3,149,286,681	8,144	4.8%
Slate	5	5	2	10	533,462,809	1,743	0.8%
Built-up Roof With Gravel	6	0	0	0	946,556,892	2,846	1.5%
Single ply membrane	7	0	0	0	259,271,258	495	0.4%
Standing Seams Metal Roof	8	2	3	8	458,456,171	1,070	0.7%
Built-up Roof Without Gravel	9	0	0	0	1,477,184,421	2,019	2.3%
Hurricane Rated Roof Covering	11	9	3	2	18,584,817,210	49,498	28.5%
Total					65,223,101,644	202,136	100.0%

AIR Roof Cover Description	AIR Code	Severe Convective Storm			Site Limit	Risk Count	% of Limit
		RMS Code	IF Code	RQE Code			
Unknown	0	0	0	0	1,312,338,495	7,153	2.0%
Asphalt Shingles	1	7	1	1	55,174,791,819	175,081	84.6%
Wooden Shingles	2	6	0	9	84,070,223	264	0.1%
Clay/Concrete Tiles	3	5	2	10	1,827,682,875	3,321	2.8%
Light Metal Panel	4	2	3	8	3,149,286,681	8,144	4.8%
Slate	5	5	2	10	533,462,809	1,743	0.8%
Built-up Roof With Gravel	6	0	0	0	946,556,892	2,846	1.5%
Single ply membrane	7	0	0	0	259,271,258	495	0.4%
Standing Seams Metal Roof	8	2	3	8	458,456,171	1,070	0.7%
Built-up Roof Without Gravel	9	0	0	0	1,477,184,421	2,019	2.3%
Total					65,223,101,644	202,136	100.0%

AIR Roof Hail Impact Desc	AIR Code	Site Limit	Risk Count	% of Limit
Unknown	0	65,096,365,931	201,861	99.8%
Impact-resistant A	1	14,351,737	40	0.0%
Impact-resistant B	2	1,530,400	6	0.0%
Impact-resistant C	3	2,482,642	3	0.0%
Impact-resistant D	4	108,370,934	226	0.2%
Total		65,223,101,644	202,136	100.0%

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Data as of 11/30/2021

RMS Opening Protection, AIR Window Protection, AIR Exterior Doors, AIR Wall Attached Structures

MOD_BLDG_CREDIT	TERRITORY	AIR Window Protection Description	AIR Open Protection Code	AIR Exterior Doors Description	AIR Exterior Doors Code	AIR Wall Attached Structure Description	AIR WallAttached Structure Code	RMS Opening Code	IF Window Code	CL Window Code	Site Limit	Risk Count	% of Limit
IBC	Inland1/Inland1	Engineered Shutters	3 Unknown		0 Unknown		0	4	3	3	219,843,445	732	0.3%
IBC	Inland1/Seaward	Engineered Shutters	3 Reinforced single width doors		3 Reinforced Double Door Garages		5	4	3	3	5,675,295	12	0.0%
IBC	Inland2/Inland1	Engineered Shutters	3 Unknown		0 Unknown		0	4	3	3	3,846,932	16	0.0%
IBC	Inland2/Inland2	N/A	0 Unknown		0 Unknown		0	0	0	0	82,721,449	227	0.1%
IBC	Retrofit/Null	N/A	0 N/A		0 N/A		0	0	0	0	528,200	2	0.0%
IBC	Seaward/Seaward	Engineered Shutters	3 Reinforced single width doors		3 Reinforced Double Door Garages		5	4	3	3	58,818,526	172	0.1%
IRC	Inland1/Inland1	N/A	0 N/A		0 N/A		0	0	0	0	2,440,320	4	0.0%
IRC	Inland1/Inland1	Engineered Shutters	3 Unknown		0 Unknown		0	4	3	3	9,760,007,082	24,626	15.0%
IRC	Inland1/Inland1	Engineered Shutters	3 Reinforced single width doors		3 Reinforced Double Door Garages		5	4	3	3	304,000	1	0.0%
IRC	Inland1/Seaward	Engineered Shutters	3 Reinforced single width doors		3 Reinforced Double Door Garages		5	4	3	3	110,524,452	279	0.2%
IRC	Inland2/Inland1	Engineered Shutters	3 Unknown		0 Unknown		0	4	3	3	92,007,736	225	0.1%
IRC	Inland2/Inland2	N/A	0 Unknown		0 Unknown		0	0	0	0	3,222,973,060	7,240	4.9%
IRC	Inland2/Inland2	Engineered Shutters	3 Unknown		0 Unknown		0	4	3	3	1,083,600	1	0.0%
IRC	Inland2/Seaward	Engineered Shutters	3 Reinforced single width doors		3 Reinforced Double Door Garages		5	4	3	3	16,799,772	49	0.0%
IRC	Retrofit/Null	N/A	0 N/A		0 N/A		0	0	0	0	10,800,620	26	0.0%
IRC	Retrofit/Null	Engineered Shutters	3 Unknown		0 Unknown		0	4	3	3	1,533,200	4	0.0%
IRC	Seaward/Seaward	N/A	0 N/A		0 N/A		0	0	0	0	647,000	2	0.0%
IRC	Seaward/Seaward	Engineered Shutters	3 Reinforced single width doors		3 Reinforced Double Door Garages		5	4	3	3	3,523,888,415	7,756	5.4%
IRC2018	Missing short text: Inland.RiskCategoryI	Engineered Shutters	3 Unknown		0 Unknown		0	4	3	3	246,400	1	0.0%
IRC2018	Missing short text: Inland.RiskCategoryII	Engineered Shutters	3 Unknown		0 Unknown		0	4	3	3	38,048,620	119	0.1%
IRC2018	Missing short text: InlandII.RiskCategoryII	N/A	0 Unknown		0 Unknown		0	0	0	0	16,560,222	53	0.0%
IRC2018	Missing short text: Seaward.RiskCategoryI	Engineered Shutters	3 Reinforced single width doors		3 Reinforced Double Door Garages		5	4	3	3	2,458,000	3	0.0%
IRC2018	Missing short text: Seaward.RiskCategoryII	Engineered Shutters	3 Reinforced single width doors		3 Reinforced Double Door Garages		5	4	3	3	22,638,754	48	0.0%
N/A	N/A	N/A	0 N/A		0 N/A		0	0	0	0	3,619,609	7	0.0%
N/A	N/A	N/A	0 Unknown		0 Unknown		0	0	0	0	43,354,545,485	149,157	66.5%
N/A	N/A	Engineered Shutters	3 Unknown		0 Unknown		0	4	3	3	28,427,695	76	0.0%
N/A	N/A	Engineered Shutters	3 Reinforced single width doors		3 Reinforced Double Door Garages		5	4	3	3	40,196,966	107	0.1%
WRC	Inland1/Inland1	N/A	0 Unknown		0 Unknown		0	0	0	0	2,804,473,356	7,021	4.3%
WRC	Inland1/Inland1	Engineered Shutters	3 Unknown		0 Unknown		0	4	3	3	8,043,320	13	0.0%
WRC	Inland1/Inland1	Engineered Shutters	3 Reinforced single width doors		3 Reinforced Double Door Garages		5	4	3	3	800,000	1	0.0%
WRC	Inland1/Seaward	N/A	0 Unknown		0 Unknown		0	0	0	0	11,508,590	25	0.0%
WRC	Inland2/Inland1	N/A	0 Unknown		0 Unknown		0	0	0	0	525,156,875	1,145	0.8%
WRC	Inland2/Inland2	N/A	0 Unknown		0 Unknown		0	0	0	0	909,923	3	0.0%
WRC	Inland2/Seaward	N/A	0 Unknown		0 Unknown		0	0	0	0	6,951,969	18	0.0%
WRC	Retrofit/Null	N/A	0 N/A		0 N/A		0	0	0	0	397,741,586	1,101	0.6%
WRC	Retrofit/Null	Engineered Shutters	3 Unknown		0 Unknown		0	4	3	3	3,153,876	7	0.0%
WRC	Seaward/Seaward	N/A	0 Unknown		0 Unknown		0	0	0	0	838,997,292	1,847	1.3%
WRC	Seaward/Seaward	Engineered Shutters	3 Reinforced single width doors		3 Reinforced Double Door Garages		5	4	3	3	4,180,000	10	0.0%
Total											65,223,101,644	202,136	100.0%

RMS Opening Protection (Detail)

1 All exterior openings (glazed and non-glazed) are fully protected at a minimum with impact resistant coverings, impact resistant doors (including garage doors) and/or impact resistant window units and meet the requirements for "Cyclic Pressure and Large Missile Impact" for large missiles - 9 lb According to ASCE 7, the Florida Building Code (FBC), and the International Building Code (IBC), a building in wind-borne debris regions must have openings within 30 feet of the ground meet the requirements of large missile impact tests (ASTM E 1996), and above 30 feet the opening must meet the requirements of small missile impact tests. Use this option for buildings taller than 30 feet that meet this requirement and have doors (including garage doors) designed for large missiles.

4 All glazed exterior openings (windows and doors) are fully protected at a minimum with impact resistant coverings and/or impact resistant window units designed for large missiles (9 lb). Non-glazed doors (including garage doors) are not designed for pressure and impact. According to ASCE 7, the FBC, and the IBC, a building in wind-borne debris regions must have openings within 30 feet of the ground meet the requirements of small missile impact tests. Use this option for buildings taller than 30 feet that meet this requirement. Large missile impact tests (ASTM E 1996), and above 30 feet the opening must meet the requirements of small missile impact tests.

Texas Windstorm Insurance Association
 Data as of 11/30/2021
 Roof Age and Roof Year Built

Roof Year	AIR Code	RMS Code	IF Code	CL Code	Site Limit	Risk Count	% of Limit
2017 - 2021	2017 - 2021		1	1	1	13,411,493,404	41,083 20.6%
2012 - 2016	2012 - 2016		2	2	2	11,670,410,673	34,583 17.9%
1859 - 2011	1859 - 2011		3	3	3	39,972,856,903	125,825 61.3%
Pre-2004 and Damaged/Poor Condition	Pre-2004		4	3 1*		168,340,664	645 0.3%
Total						65,223,101,644	202,136 100.0%

RMS	Code Descriptions	
	IF	CL
1: 0-5 yrs	1: 0-5 yrs	1: 0-5 yrs
2: 6-10 yrs	2: 6-10 yrs	2: 6-10 yrs
3: 11+ yrs	3:11+ yrs	3: 11-15 yrs
4: Obvious signs of deterioration		1*: Roof condition poor

Texas Windstorm Insurance Association

Data as of 11/30/2021

RMS Construction Quality, AIR Seal of Approval, and AIR Building Condition

AIR Seal of Approval Description	AIR Code	RMS Code	Site Limit	Risk Count	% of Limit
Unknown	0	0	41,088,851,778	141,481	63.0%
Fully Engineered Structure	1	9	20,473,768,679	48,537	31.4%
Partially Engineered Structure	2	0	3,660,481,187	12,118	5.6%
Total			65,223,101,644	202,136	100.0%

RMS
Construction Quality
0: Unknown
9: Certified design & construction
0: Unknown

STRUCTURE_CONDITION_CD	AIR Building Condition Description	AIR Building Condition Code	Site Limit	Risk Count	% of Limit
N/A	Unknown	0	7,086,472,052	18,869	10.9%
Unknown	Unknown	0	2,576,731,926	11,263	4.0%
Average	Average	1	2,306,707,856	10,885	3.5%
Fair	Average	1	113,708,089	760	0.2%
Excellent	Good	2	11,044,398,142	27,522	16.9%
Good	Good	2	23,785,126,107	79,116	36.5%
VeryGood	Good	2	18,308,045,873	53,705	28.1%
Poor	Poor	3	1,911,600	16	0.0%
Total			65,223,101,644	202,136	100.0%

Texas Windstorm Insurance Association
 Data as of 11/30/2021
 Roof Geometry

Set based on "Roof Style" in EV data.

Roof Style	AIR Code	RMS Code	IF Code	CL Code	Site Limit	Risk Count	% of Limit
NULL	0	0	0	0	27,485,877,735	83,589	42.1%
Flat	1	2	2	1	1,275,754,301	3,697	2.0%
Gabled	2	5	3	4	11,889,455,069	44,279	18.2%
Hip	3	3	1	7	11,647,013,650	35,205	17.9%
Mixed	4	5	3	4	12,925,000,889	35,366	19.8%
Total					65,223,101,644	202,136	100.0%

Texas Windstorm Insurance Association

Data as of 11/30/2021

AIR Tree Exposure

Set based on "Tree Overhang" in EV data.

Tree Overhang	AIR Tree Overhang Description	AIR Code	Site Limit	Risk Count	% of Limit
NULL	Unknown	0	27,485,877,735	83,589	42.1%
	0 Unknown	0	21,995,570	49	0.0%
None	No	1	19,002,487,363	55,057	29.1%
High	Yes	2	21,179,992	90	0.0%
Low	Yes	2	16,240,816,404	53,899	24.9%
Medium	Yes	2	2,450,744,581	9,452	3.8%
Total			65,223,101,644	202,136	100.0%

Note: This was all done by Eagle view so looking if house obstructed by Trees not necessarily if nearby so code none as unknown.