VIRACON®

Acoustic Performance Data Tables

Viracon Acoustical Glass is made from combinations of various glass types along with acoustical window frames to help you effectively reduce sound transmission from airplanes, trains, vehicles and other unwanted noises. Products and corresponding data in this document are intended to provide comparative estimates between glass configurations.

The **STC (Sound Transmission Class)** rating is a single-number rating system for interior building partitions and viewing windows used to categorize acoustic performance. Its original intent was to quantify interior building partitions not exterior wall components. As a result it is not recommended for glass selection of exterior wall applications since the single-number rating was achieved under a specific set of laboratory conditions.

The **OITC (Outside-Inside Transmission Class)** rating is used to classify acoustic performance of glazing in exterior applications. The products and corresponding data are intended to provide comparative estimates between glass configurations. See additional notes below data for specific details.

INSULATING ACOUSTICAL DATA

The performance data below applies to an insulating unit constructed with two plies of glass and an air or argon filled space. Data is based on testing ~36" x 84" glass to ASTM E413-87 in an acoustical wall. *OITC is estimated based on this test. Glass size and glazing system will affect STC rating. Product configuration and size limitations apply.

Insulating Glass Construction	STC	OITC*	Frequency (Hz)																	
			100	125	160	200	250	315	400	500	630	800	1000	1250	1600	2000	2500	3150	4000	5000
			Sound Transmission Loss (dB)																	
1" overall - 1/4" glass, 1/2" spacer, 1/4" glass	**35**	**30**	27	24	29	22	22	25	30	33	35	38	40	42	42	37	37	43	46	49
1" overall - 1/4" glass, 9/16" spacer, 3/16" glass	**37**	**30**	32	26	25	20	24	29	33	34	38	41	43	46	46	42	36	43	48	53
1-1/16" overall - 1/4" glass, 1/2" spacer, 5/16" glass	**38**	**33**	30	24	29	26	29	33	34	36	39	41	41	40	38	37	39	43	46	48
1-1/8" overall - 5/16" glass, 1/2" spacer, 5/16" glass	**37**	**32**	26	24	25	31	24	32	32	35	37	39	39	38	36	38	42	44	46	49
1-1/8" overall - 1/4" glass, 1/2" spacer, 3/8" glass	**39**	**34**	28	26	32	29	29	31	35	37	38	39	41	43	41	40	41	44	47	49
1-3/16" overall - 5/16" glass, 1/2" spacer, 3/8" glass	**39**	**34**	29	26	26	31	30	37	36	37	39	39	40	37	35	39	43	46	48	49
1-1/4" overall - 1/4" glass, 3/4" spacer, 1/4" glass	**38**	**31**	27	23	28	21	27	29	34	35	37	41	43	45	44	39	39	46	49	52
1-1/4" overall - 3/8" glass, 1/2" spacer, 3/8" glass	**37**	**32**	29	23	23	29	31	34	34	35	36	36	35	35	36	40	43	47	49	48
1-3/8" overall - 1/4" glass, 3/4" spacer, 3/8" glass	**40**	**33**	30	23	31	28	33	37	39	40	41	39	38	38	39	39	40	47	51	53
1-1/2" overall - 1/4" glass, 1" spacer, 1/4" glass	**37**	**30**	22	19	27	23	31	30	35	35	36	39	41	42	41	36	37	46	51	56

INSULATING LAMINATED ACOUSTICAL DATA

The performance data below applies to insulating laminated glass units constructed with three plies of glass, an interlayer and an airspace. Data is based on testing ~36" x 84" glass to ASTM E413-87 in an acoustical wall. *OITC is estimated based on this test. Glass size and glazing system will affect STC rating. Product configuration and size restrictions may apply.

Insulating Laminated Glass Construction	STC	OITC*	Frequency (Hz)																	
			100	125	160	200	250	315	400	500	630	800	1000	1250	1600	2000	2500	3150	4000	5000
			Sound Transmission Loss (dB)																	
1-1/16" overall - 1/4" glass, 7/16" spacer, 3/16" glass, .030" PVB, 3/16" glass	**40**	**33**	31	25	30	27	29	34	36	37	39	40	42	43	42	41	44	47	51	51
1-1/16" overall - 1/4" glass, 1/2" spacer, 1/8" glass, .060" PVB, 1/8" glass	**41**	**32**	24	23	28	26	28	33	36	37	39	42	44	46	46	43	44	50	53	55
1-1/8" overall - 1/4" glass, 1/2" spacer, 3/16" glass, .030" PVB, 3/16" glass	**41**	**35**	32	27	29	28	31	35	37	39	41	42	43	44	43	42	45	50	53	54
1-3/16" overall - 1/4" glass, 1/2" spacer, 3/16" glass, .060" PVB, 3/16" glass	**42**	**36**	30	29	31	28	31	34	37	39	41	42	44	46	45	44	47	52	55	60
1-1/4" overall - 1/4" glass, 1/2" spacer, 1/4" glass, .030" PVB, 1/4" glass	**43**	**36**	31	29	32	30	32	35	38	40	40	42	44	46	47	46	47	52	56	61
1-5/16" overall - 1/4" glass, 1/2" spacer, 1/4" glass, .075" Saflex™ Storm, 1/4" glass	**39**	**34**	29	25	30	27	31	34	35	34	36	38	40	41	42	43	44	47	50	49
1-5/16" overall - 1/4" glass, 1/2" spacer, 1/4" glass, .090" SentryGlas®, 1/4" glass	**39**	**34**	29	24	32	27	32	34	35	34	36	38	40	40	41	41	42	46	48	49
1-5/16" overall - 1/4" glass, 1/2" spacer, 1/4" glass, .100" Saflex™ HP, 1/4" glass	**40**	**34**	28	23	30	28	32	35	36	36	37	39	41	43	43	43	45	48	50	49
1-5/16" overall - 1/4" glass, 1/2" spacer, 1/4" glass, .060" PVB, 1/4" glass	**42**	**34**	29	24	30	29	32	37	40	40	41	42	44	45	44	45	48	53	57	59
1-5/16" overall - 1/4" glass, 5/8" spacer, 3/16" glass, .060" PVB, 3/16" glass	**42**	**35**	29	24	30	29	32	37	40	40	41	42	44	45	44	45	48	53	57	59
1-3/8" overall - 5/16" glass, 5/8" spacer, 3/16" glass,.060" PVB, 3/16" glass	**43**	**37**	28	28	34	36	33	40	41	42	43	43	42	40	40	43	49	53	57	61
1-7/16" overall - 1/4" glass, 3/4" spacer, 3/16" glass, .060" PVB, 3/16" glass	**44**	**36**	28	26	32	30	35	37	40	41	43	44	45	47	47	44	47	53	57	60
1-9/16" overall - 1/4" glass, 3/4" spacer, 1/4" glass, .060" PVB, 1/4" glass	**44**	**37**	28	29	36	32	34	39	41	41	41	43	44	45	45	46	47	52	56	61
1-5/8" overall - 1/4" glass, 1" spacer, 3/16" glass, .030" PVB, 3/16" glass	**40**	**32**	24	24	31	28	33	36	37	39	39	40	41	41	41	42	43	47	49	47
1-11/16" overall - 3/8" glass, 3/4" spacer, 1/4" glass, .060" PVB, 1/4" glass	**43**	**37**	25	31	38	33	37	39	42	43	43	42	40	40	41	56	50	55	58	61
1-15/16" overall - 3/8" glass, 1" spacer, 1/4" glass, .060" PVB, 1/4" glass	**46**	**36**	24	30	33	35	40	41	44	45	45	44	44	44	43	46	50	54	57	58

DOUBLE LAMINATED INSULATING ACOUSTICAL DATA

The performance data below applies to double laminated insulating glass units. Data is based on testing ~36" x 84" glass to ASTM E413-87 in an acoustical wall. Glass size and glazing system will affect STC rating. The double laminated insulating glass units are constructed with four plies of glass, two interlayers and an spacer. Product configuration and size restrictions may apply.

Double Laminated Insulating Glass Construction	STC	OITC*	Frequency (Hz)																	
			100	125	160	200	250	315	400	500	630	800	1000	1250	1600	2000	2500	3150	4000	5000
			Sound Transmission Loss (dB)																	
1-5/16" overall - 1/4" glass, .030" PVB, 1/4" glass, 1/2" spacer, 5/32" glass, .060" PVB, 5/32" glass	**43**	**36**	30	25	29	33	34	38	42	42	43	44	42	41	42	44	49	52	55	57
1-7/16" overall - 1/4" glass, .030" PVB, 1/4" glass, 1/2" spacer, 3/16" glass, .060" PVB, 3/16" glass	**41**	**35**	32	25	29	31	33	35	37	38	39	39	40	41	42	43	43	44	45	46
1-11/16" overall - 1/4" glass, .060" PVB, 1/4" glass, 3/4" spacer, 3/16" glass, .030" PVB, 3/16" glass	**44**	**33**	21	23	31	35	37	40	42	42	43	42	42	42	44	48	51	55	57	59
2-3/8" overall - 3/8" glass, .060" PVB, 3/8" glass, 3/4" spacer, 3/8" glass, .090" PVB, 3/8" glass	**45**	**38**	28	32	37	35	38	39	41	38	40	41	44	46	49	52	55	57	56	53
2-5/8" overall - 3/8" glass, .060" PVB, 3/8" glass, 1" spacer, 3/8" glass, .090" PVB, 3/8" glass	**45**	**38**	29	32	37	37	37	40	42	38	39	41	44	47	50	53	55	57	59	60

TRIPLE INSULATING ACOUSTICAL DATA

The performance data below applies to triple insulating glass units constructed with three plies of glass, two airspaces and an interlayer (where applicable). Data is based on testing ~36" x 84" glass to ASTM E413-87 in an acoustical wall. *OITC is estimated based on this test. Glass size and glazing system will affect STC rating. Product configuration and size restrictions may apply.

Triple Insulating Glass Construction	STC	OITC*	Frequency (Hz)																	
			100	125	160	200	250	315	400	500	630	800	1000	1250	1600	2000	2500	3150	4000	5000
			Sound Transmission Loss (dB)																	
1-3/4" overall - 1/4" glass, 1/2" spacer, 1/4" glass, 1/2" spacer, 1/4" glass	**39**	**31**	25	22	29	24	25	29	34	37	40	43	46	48	47	41	41	47	52	58
1-7/8" overall - 1/4" glass, 1/2" spacer, 1/4" glass, 1/2" spacer, 3/16" glass, .030" PVB, 3/16" glass	**41**	**33**	24	25	31	29	31	36	37	39	39	41	41	42	42	43	44	48	50	49
2-3/4" overall - 3/8" glass, 3/4" spacer, 5/16" glass, 3/4" spacer, 1/4" glass, .060" PVB, 1/4" glass	**45**	**35**	33	30	34	37	39	43	44	45	46	43	41	41	43	49	55	57	61	65

LAMINATED ACOUSTICAL DATA

The performance data below applies to laminated glass units constructed with two plies of glass and an interlayer. Data is based on testing ~36" x 84" glass to ASTM E413-87 in an acoustical wall. *OITC is estimated based on this test. Glass size and glazing system will affect STC rating. Product configuration and size restrictions may apply.

Laminated Glass Construction	STC	OITC*	Frequency (Hz)																	
			100	125	160	200	250	315	400	500	630	800	1000	1250	1600	2000	2500	3150	4000	5000
			Sound Transmission Loss (dB)																	
5/16" overall - 1/8" glass, .060" PVB, 1/8" glass	**35**	**31**	25	25	26	29	28	30	30	32	34	35	35	36	36	36	36	39	43	46
3/8" overall - 3/16" glass, .030" PVB, 3/16" glass	**36**	**33**	27	27	27	30	31	31	33	34	35	36	36	35	34	37	41	45	49	52
1/2" overall - 1/4" glass, 030" PVB, 1/4" glass	**38**	**34**	25	29	28	30	33	33	34	36	37	37	37	36	37	41	45	48	51	53
9/16" overall - 1/4" glass, .060" PVB, 1/4" glass	**39**	**34**	26	29	28	30	33	33	35	36	37	38	38	37	38	41	44	47	51	54
9/16" overall - 1/4" glass, .075" Saflex™ Storm, 1/4" glass	**36**	**35**	27	30	30	31	31	33	32	33	34	35	35	34	36	40	43	45	47	47
9/16" overall - 1/4" glass, .090" SentryGlas®, 1/4"glass	**36**	**34**	31	30	29	31	32	33	33	34	35	35	34	32	34	37	40	42	44	47
9/16" overall - 1/4" glass, .100" Saflex™ HP, 1/4" glass	**37**	**35**	32	31	30	31	33	34	34	34	35	36	35	35	37	41	44	47	49	51

MONOLITHIC ACOUSTICAL DATA

The performance data below applies to monolithic glass. Data is based on testing ~36" x 84" glass to ASTM E413-87 in an acoustical wall. *OITC is estimated based on this test. Glass size and glazing system will affect STC rating. The monolithic glass is one lite of glass. Product configuration and size restrictions may apply.

Monolithic Glass Construction	STC	OITC*	Frequency (Hz)																	
			100	125	160	200	250	315	400	500	630	800	1000	1250	1600	2000	2500	3150	4000	5000
			Sound Transmission Loss (dB)																	
1/8" overall - 1/8" glass	**30**	**25**	19	17	18	21	23	22	24	27	28	30	30	32	34	35	36	33	26	30
1/4" overall - 1/4" glass	**31**	**29**	23	25	25	24	28	26	29	31	33	34	34	35	34	30	27	32	37	31
3/8" overall - 3/8" glass	**34**	**32**	26	27	27	30	32	31	34	35	36	35	33	30	30	35	38	41	46	48
1/2" overall - 1/2" glass	**36**	**33**	26	30	26	30	33	33	34	36	37	35	32	32	36	40	43	46	50	51

DOUBLE GLAZED INSULATING ACOUSTICAL DATA

The performance data below applies to double glazed insulating glass units. Data is based on testing ~36" x 84" glass to ASTM E413-87 in an acoustical wall. *OITC is estimated based on this test. Glass size and glazing system will affect STC rating. **These double-glazed applications are provided for information only and refer to field-glazed applications.** Viracon supplies only the glass components. Product configuration and size restrictions may apply.

Double Glazed Insulating Glass Construction	STC	OITC*	Frequency (Hz)																	
			100	125	160	200	250	315	400	500	630	800	1000	1250	1600	2000	2500	3150	4000	5000
			Sound Transmission Loss (dB)																	
1-13/16" overall - 1/4" glass, .030" PVB, 1/4" glass, 1" spacer, 1/8" glass, .060" PVB, 1/8" glass	**46**	**35**	21	28	33	37	38	42	43	45	44	44	44	45	49	53	57	59	62	63
2-11/16" overall - 1/4" glass, .030" PVB, 1/4" glass, 2" spacer, 3/16" glass	**46**	**39**	27	36	33	33	35	39	41	45	45	46	46	46	49	51	52	56	60	62
2-7/8" overall - 1/4" glass, .030" PVB, 1/4" glass, 2" spacer, 3/8" glass	**46**	**42**	34	37	33	38	40	42	44	48	47	46	45	52	56	51	55	59	61	62
4-11/16" overall - 1/4" glass, .030" PVB, 1/4" glass, 4" spacer, 3/16" glass	**49**	**41**	30	37	33	38	37	42	45	49	50	51	50	48	50	53	58	57	61	64
4-3/4" overall - 1/4" glass, .030" PVB, 1/4" glass, 4" spacer, 1/8" glass, .030" PVB, 1/8" glass	**51**	**44**	34	38	34	40	41	45	47	51	52	53	53	51	52	55	58	60	62	64
4-7/8" overall - 1/4" glass, .030" PVB, 1/4" glass, 4" spacer, 3/8" glass	**49**	**44**	38	38	33	40	40	43	46	51	52	52	50	45	48	53	56	59	62	64
5-1/16" overall - 1/4" glass, .060" PVB, 1/4" glass, 4" spacer, 1/4" glass, .030" PVB, 1/4" glass	**50**	**43**	31	39	35	39	41	43	46	51	52	52	49	48	50	54	59	61	63	64

Contact Viracon's Technical Services Department at 800.533.2080 to obtain performance data on products not listed here.