Inventory of Acoustically Tested Mass Timber Assemblies

Following is a list of mass timber assemblies that have been acoustically tested as of November 10, 2022. Sources are noted at the end of this document. For free technical assistance on any questions related to the acoustical design of mass timber assemblies, or free technical assistance related to any aspect of the design, engineering or construction of a commercial or multi-family wood building in the U.S., email help@woodworks.org or contact the WoodWorks Regional Director nearest you: http://www.woodworks.org/project-assistance

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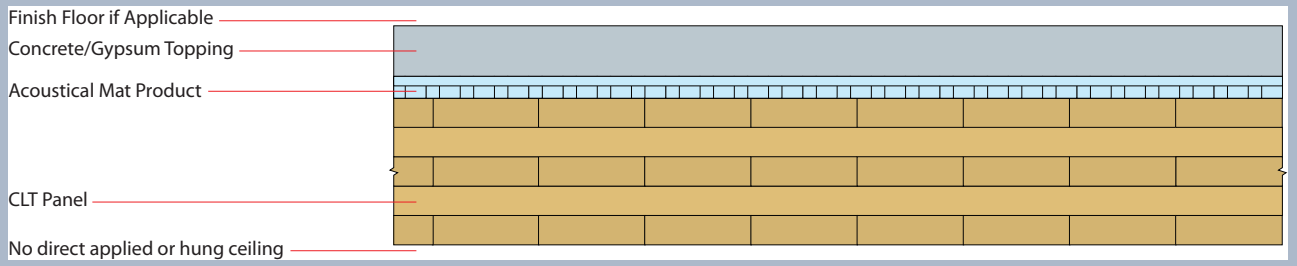
Table 1: CLT Floor Assemblies with Concrete/Gypsum Topping, Ceiling Side Exposed



CLT Panel	Concrete/Gypsum Topping	Acoustical Mat Product Between CLT and Topping	Finish Floor	STC[1]	IIC[1]	Source
CLT 3-ply (3.5”)	3” concrete	Maxxon Acousti-Mat® 3/4	None	53[2] ASTC	45[2] FIIC	72
CLT 3-ply (4.125”)	2” concrete	Pliteq GenieMat™ FF25	None	54	44	89
			LVT on GenieMat RST05	53	48	90
			Eng Wood on GenieMat RST05	53	46	91
			Carpet Tile	52	50	92
	3” concrete	Kinetics® RIM-33L-2-24 System with ¾” Plywood	None	57	45	103
			LVT	-	58	104
			2 layers of ¼” USG Fiberock® on Kinetics® Soundmatt	55	55	105
			LVT on 2 layers of ¼” USG Fiberock® on Kinetics® Soundmatt	-	59	106
		Kinetics® Ultra Quiet SR with synthetic roofing felt	None	57	46	107
			LVT	-	55	108
			2 layers of ¼” USG Fiberock® on Kinetics® Soundmatt	57	53	109
			LVT on 2 layers of ¼” USG Fiberock® on Kinetics® Soundmatt	-	50	110
	4” concrete	Kinetics® RIM-33L-2-24 System with ¾” Plywood	None	60	53	111

Table 1 Continued: CLT Floor Assemblies with Concrete/Gypsum Topping, Ceiling Side Exposed

CLT Panel	Concrete/Gypsum Topping	Acoustical Mat Product Between CLT and Topping	Finish Floor	STC[1]	IIC[1]	Source
CLT 5-ply (6.875")	1" Gyp-Crete®	Maxxon Acousti-Mat® 3/8 Premium	None	50	40	86
			LVT	51	43	87
	1-1/2" gypsum	0.35" (9mm) closed-cell foam	None	50	41	20
	1-1/2" concrete	None	None	49	28	20
		0.35" (9mm) closed-cell foam		53	36	
		0.5" wood fiberboard		52	35	
		0.75" recycled fabric felt		59	42	
		0.5" rubber nuggets on foil		53	46	
		0.315" (8 mm) shredded rubber mat		52	38	
		0.67" (17 mm) shredded rubber mat		54	44	
		0.39" (10 mm) Tar Boards		54	36	68
			Eng Wood on 2 mm closed cell foam	53	47	
		½" Insonomat	None	56	48	
			Eng Wood on 2 mm closed cell foam	55	51	
		0.35" (9 mm) Owens Corning QuietZone closed cell foam	None	54	39	
			Eng Wood on 2 mm closed cell foam	52	48	
		Pliteq GenieMat™ FF25	LVT on GenieMat RST02	58	52	151
	2" Gyp-Crete®	Maxxon Acousti-Mat® 3/8 Premium	None	52	38	22
			LVT	52	44	
			LVT on Armstrong S-1837 Quiet Comfort	52	51	
			Linoleum sheet flooring	51	48	
			Linoleum sheet flooring on Armstrong S-1837 Quiet Comfort	51	53	
			Carpet	50	66	

Table 1 Continued: CLT Floor Assemblies with Concrete/Gypsum Topping, Ceiling Side Exposed

CLT Panel	Concrete/Gypsum Topping	Acoustical Mat Product Between CLT and Topping	Finish Floor	STC[1]	IIC[1]	Source
CLT 5-ply (6.875")	2" Levelrock® Brand 2500	Pliteq GenieMat™ FF25	LVT on GenieMat RST05	53	51	2
			Eng Wood on GenieMat RST02	53	49	31
		USG SRB on USG SAM N25 Ultra	None	51[6]	42[6]	62
			LVT	51[6]	47[6]	63
			LVT Plus	51[6]	51[6]	14
			Eng Wood	50[6]	48[6]	64
			Carpet + Pad	50[6]	66[6]	65
			Ceramic Tile	52[6]	48[6]	66
		USG SAM N25™ Supreme	Eng Wood	52	51	171
			T&G SPC on Shaw Acoustilogix	51	53	172
			LVT Plus	53	51	173
			Ceramic Tile	53	50	174
	2" concrete	Rothoblaas Silent Floor EVO + 1.57" mineral wool + 4.7" EPS lightened screed + Rothoblaas Barrier 100	None	57[9]	50[9]	12
		Maxxon Acousti-Mat® SBR over Maxxon Acousti-Mat® 3/4		52	46	76
			LVT on Acousti-Top®	53	52	77
	2-3/8" concrete	Rothoblaas Barrier 100 + 1.18" mineral wool + 3.15" compact gravel fill w/cement + Rothoblaas Slient Floor[7]	None	53[9]	62[9]	12
	3" concrete	2" Kinetics® Noise Control Roll-out Isolation Material	None	58	55	22
	4" concrete	Pliteq GenieMat™ FF16 (FF10 + FF06)	None	56	50	32
		Pliteq GenieMat™ FF20 (FF10 + FF10)		57	51	30
		Pliteq GenieMat™ FF23 (FF17 + FF06)		56	52	33
		Pliteq GenieMat™ FF25		57	50	2
			Eng Wood on GenieMat™ RST02	56	55	29
		Pliteq GenieMat™ FF31 (FF25 + FF06)	None	58	53	34
		Pliteq GenieMat™ FF50 (FF25 + FF25)		59	54	2
			Eng Wood on GenieMat™ RST02	58	59	5

Table 1 Continued: CLT Floor Assemblies with Concrete/Gypsum Topping, Ceiling Side Exposed

CLT Panel	Concrete/Gypsum Topping	Acoustical Mat Product Between CLT and Topping	Finish Floor	STC[1]	IIC[1]	Source
CLT 5-ply (6.0")	2" gypsum	Keene ¾" Quiet Qurl® 075	LVT	-	54[6]	122
			LVT on 1" Platform L2 Underlayment on 5mm KeedeRoll MT Premium	-	60[6]	121
		Keene 3/8" Quiet Qurl® 040		-	58[6]	124
		5 mm Keene Step Soft Underlayment on Keene ¾" Quiet Qurl® 075	LVT	-	56[6]	123
	2" Gyp-Crete®	Maxxon Acousti-Mat® ¾ Premium	Click LVT	52	47	182
			Glue Down LVT	53	47	183
	3" concrete	Kinetics® RIM-33L-2-24 System with ¾" Plywood	None	61	46	112
			LVT	-	61	113
			2 layers of ¼" USG Fiberock® on Kinetics® Soundmatt	61	59	114
			LVT on 2 layers of ¼" USG Fiberock® on Kinetics® Soundmatt	-	59	115
		Kinetics® Ultra Quiet SR with synthetic roofing felt	None	59	46	116
			LVT	-	58	117
			2 layers of ¼" USG Fiberock® on Kinetics® Soundmatt	61	58	118
			LVT on 2 layers of ¼" USG Fiberock® on Kinetics® Soundmatt	-	57	119
	4" concrete	Kinetics® RIM-33L-2-24 System with ¾" Plywood	None	61	52	120

Table 1 Continued: CLT Floor Assemblies with Concrete/Gypsum Topping, Ceiling Side Exposed

CLT Panel	Concrete/Gypsum Topping	Acoustical Mat Product Between CLT and Topping	Finish Floor	STC[1]	IIC[1]	Source
CLT 5-ply (5.1875")	1-1/2" concrete	1" Regupol SonusWave	None	56	49	3
		½" Insonomat		53	47	68
		AcoustiTECH Soprema Insonomat (under concrete) + Soprema Insonofloor (on topping)	Eng Wood	-	49[3]	4
		Regupol SonusWave (under concrete) + AcoustiTECH Soprema Insonofloor (on topping)		-	53[3]	
		AcoustiTECH LEAD 6 + AcoustiTECH Sofix + 5/8" plywood + 1/2" plywood + Soprema Insonofloor		-	58[3]	
		AcoustiTECH Sofix + 2 layers 5/8" OSB + AcoustiTECH Ceramic	Ceramic Tile	-	60[3]	
		AcoustiTECH LEAD 6 + AcoustiTECH Sofix + 2 layers 5/8" OSB + AcoustiTECH Ceramic	Ceramic Tile	-	63[3]	
		0.35" (9 mm) Owens Corning QuietZone closed cell foam	None	52	40	68
		0.39" (10 mm) Tar Boards		52	41	
			Eng Wood on 2 mm closed cell foam	50	46	
	2" concrete	0.1 mm polyethylene sheeting on 10 mm Tar Boards	None	47	35	68
			Laminate floor on 3 mm AcoustiTECH Premium Felt Membrane	42	45	
	2-3/4" concrete	1" Regupol SonusWave	None	56	46	3
		1" Regupol SonusWave (under concrete) + Fermacell 2E31 (on topping)		-	52	
		1.25" Roxul ComfortBoard IS		57	45	
		1.25" Roxul ComfortBoard IS (under concrete) + AcoustiTECH Premium (on topping)	LVT	-	51	
	2-3/4" cement mortar	½" Insonomat	None	56	45	68
		½" Insonomat on 10 mm Tar Boards		58	47	

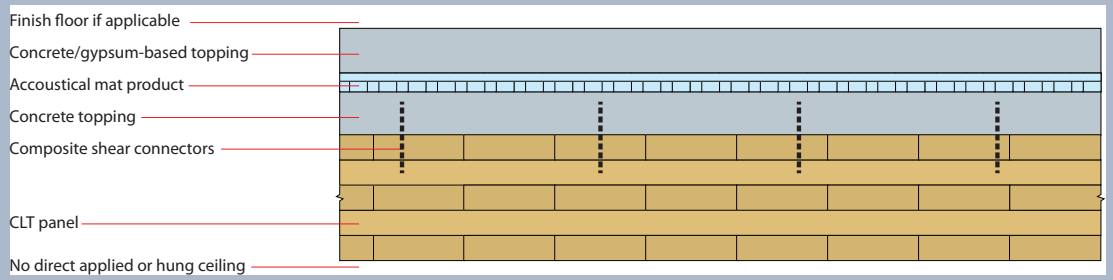
Table 1 Continued: CLT Floor Assemblies with Concrete/Gypsum Topping, Ceiling Side Exposed

CLT Panel	Concrete/Gypsum Topping	Acoustical Mat Product Between CLT and Topping	Finish Floor	STC[1]	IIC[1]	Source
CLT 5-ply (5.1875")	2-3/4" concrete	Roxul ComfortBoard IS, 1.25" (under concrete) + Roberts Soft Stride (on topping)	LVT	-	51	3
CLT 5-ply (7.5")	2" Gyp-Crete®	Maxxon Acousti-Mat® SBR over Maxxon Acousti-Mat® 3/8 Premium	Click LVT	56	50	184
			Glue Down LVT	56	50	185
CLT 7-ply (9.875")	1-1/2" concrete	0.35" (9 mm) closed-cell foam	None	56	44	20
MPP 4"	2" Levelrock® Brand 2500	Pliteq GenieMat™ FF25	LVT on Pliteq GenieMat DH760	51	51	186
MPP 5"	1-1/2" Gyp-Crete®	Maxxon Acousti-Mat® ¾ Premium	LVT on Acousti-Top®	53	44	95
	2" concrete	Maxxon Acousti-Mat® SBR over Maxxon Acousti-Mat® 3/4	None	57	47	93
			LVT on Acousti-Top®	57	51	94

Table 1 Notes:

1. All STC tests performed in accordance with ASTM E 90 unless otherwise noted below. All IIC tests performed in accordance with ASTM E 492 unless otherwise noted below. See end of document for sources and referenced test reports.
2. ASTC field tests performed in accordance with ASTM E 336. AIIC field tests performed in accordance with ASTM E 1007.
3. IIC tests not performed in accordance with a singular test standard. Test measurement method used a combination of ASTM E492 and ASTM 1007 per acoustical mat product manufacturer.
4. FSTC field test performed in accordance with ASTM E 336. AIIC field test not performed in accordance with ASTM E 1007 (inadequate number of measurements).
5. STC and IIC noted is a prediction based on the ISO 15712-1 prediction method as noted in the referenced test report.
6. STC and IIC noted is based on floor zone testing procedures that are modifications of ASTM E90 and E492 test and do not fully conform with these test standards per acoustical mat product manufacturer and as noted in the referenced test report.
7. Actual thickness of CLT in this test was 6.3" (160 mm)
8. Assemblies included in the 1st edition of the CLT Handbook are included herein due to their legacy use. However, the testing standards used for these assemblies are European and direct correlation to IBC-referenced ASTM standards is not currently available.
9. STC and IIC noted is a based on the ISO 12354 model as noted in the referenced manufacturer's literature

Table 2: CLT-Concrete Composite Floor Assemblies, Ceiling Side Exposed

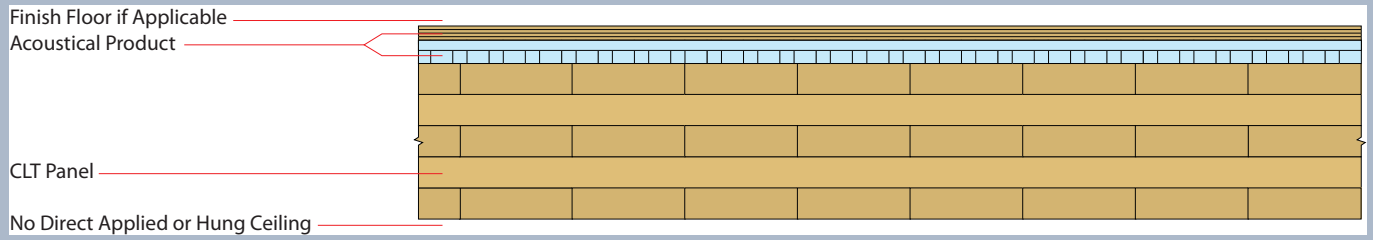


CLT Panel	Composite Concrete Topping	Acoustical Mat Product Between Composite Concrete and Upper Topping	Upper Concrete/Gypsum Topping	Finish Floor	STC[1]	IIC[1]	Source
CLT 5-ply (5.4")	2-1/4" concrete	5/8" OSB on 5/8" Georgia Pacific Dens Deck® on Kinetics® Ultra Quiet SR	None	Eng. Wood	60	62	149
		Maxxon Acousti-Mat® 3/8	1" Gyp-Crete®	None	52	50	128
				Eng. Wood	53	52	129
		1-3/4" Owens Corning EPS Insulation board on Maxxon Acousti-Mat® ¼ Premium		None	56	50	148
		Maxxon Acousti-Mat® SBR on Maxxon Acousti-Mat® ¾ Premium	1-1/2" Gyp-Crete®		56	57	130
				Eng. Wood	57	61	131
		Maxxon® Moistop on ½" plywood on CDM Float SDS rubber isolaters in 24" square grid		None	61	62	145
		2 layers Maxxon® Moistop on 5/8" Georgia Pacific Dens Deck® on 1" Johns Manville Spin-Glas 814 insulation board			59	66	146
				Eng. Wood	57	62	150
		Maxxon Acousti-Mat® SBR on Maxxon Acousti-Mat® ¾ Premium	2" Gyp-Crete®	None	60	61	147

Table 2 Notes:

1. All STC tests performed in accordance with ASTM E 90 unless otherwise noted below. All IIC tests performed in accordance with ASTM E 492 unless otherwise noted below. See end of document for sources and referenced test reports.
2. ASTC field tests performed in accordance with ASTM E 336. AIIC field tests performed in accordance with ASTM E 1007.
3. IIC tests not performed in accordance with a singular test standard. Test measurement method used a combination of ASTM E492 and ASTM 1007 per acoustical mat product manufacturer.
4. FSTC field test performed in accordance with ASTM E 336. AIIC field test not performed in accordance with ASTM E 1007 (inadequate number of measurements).
5. STC and IIC noted is a prediction based on the ISO 15712-1 prediction method as noted in the referenced test report.
6. STC and IIC noted is based on floor zone testing procedures that are modifications of ASTM E90 and E492 test and do not fully conform with these test standards per acoustical mat product manufacturer and as noted in the referenced test report.
7. Actual thickness of CLT in this test was 6.3" (160 mm)
8. Assemblies included in the 1st edition of the CLT Handbook are included herein due to their legacy use. However, the testing standards used for these assemblies are European and direct correlation to IBC-referenced ASTM standards is not currently available.
9. STC and IIC noted is a based on the ISO 12354 model as noted in the referenced manufacturer's literature

Table 3: CLT Floor Assemblies without Concrete/Gypsum Topping, Ceiling Side Exposed



CLT Panel	Acoustical Product on CLT Panel	Finish Floor	STC[1]	IIC[1]	Source
CLT 3-ply (4.125")	None	None	38	22	88
CLT 5-ply (6.875")	None	None	41	25	20
	2 layers 23/32" AdvanTech® on Pliteq GenieMat™ FF10		45	42	35
	2 layers 23/32" AdvanTech® on Pliteq GenieMat™ FF25		48	44	36
	23/32" AdvanTech® on ½" cement board on Pliteq GenieMat™ RST02 on ½" cement board on Pliteq GenieMat™ FF25	LVT	53	51	37
	2x12 mm cement board on ½" wood fiberboard	None	48	46	20
	5/8" plywood on ½" plywood on AcoustiTECH Sofix on AcoustiTECH 6 mm membrane	Eng Wood	-	55[2] AIIC	67
		Ceramic Tile on AcoustiTECH 3 mm membrane	-	55[2] AIIC	
		LVT	-	56[2] AIIC	
	½" plywood on 3/4" plywood on AcoustiTECH Sofix	Hardwood	57	57	180
	½" plywood on 3/4" plywood on AcoustiTECH Sofix on AcoustiTECH Lead 6		61	58	181
	5/8" plywood on ½" plywood on AcoustiTECH Sofix	Eng Wood on InsonoFloor	55[2] ASTC	-	67
	Fermacell E-32 on Honeycomb Fermacell filled with New granule	Eng Wood on AcoustiTECH VP	58[2] ASTC	58[2] AIIC	10
CLT 5-ply (6.38")	¾" plywood on ¾" MDF on 3 layers of 1" mineral fiber board	None	50[2] FSTC	50[2] AIIC	75
		LVT	-	50[2] AIIC	
		Carpet	-	65[2] AIIC	
CLT 5-ply (5.5")	¾" plywood on ¾" MDF on 3 layers of 1" mineral fiber board	None	52[2] FSTC	47[2] AIIC	75
		LVT	-	48[2] AIIC	
		Carpet	-	62[2] AIIC	
CLT 5-ply (5.4")	None	None	41	27	73

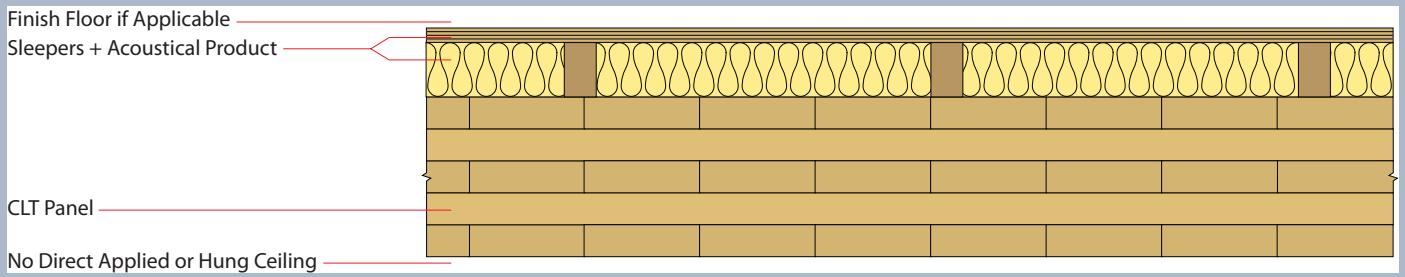
Table 3 Continued: CLT Floor Assemblies without Concrete/Gypsum Topping, Ceiling Side Exposed

CLT Panel	Acoustical Product on CLT Panel	Finish Floor	STC[1]	IIC[1]	Source
CLT 5-ply (5.1875”)	None	None	39	22	3
	Regupol SonoDeck		44	38	
	Fermacell 2E31		48	41	
CLT 5-ply (5.1875”)	Fermacell 2E32 + AcoustiTECH Soprema Insonofloor	Eng Wood	-	43[3]	4
	Fermacell 2E32 + Fermacell 12.5 + AcoustiTECH Soprema Insonofloor		-	44[3]	
	Fermacell Honeycomb w/filling + Fermacell 2E32 + AcoustiTECH Soprema Insonofloor		-	49[3]	
	Fermacell Honeycomb w/filling + Fermacell 2E32 + Fermacell 12.5 + AcoustiTECH Soprema Insonofloor		-	50[3]	
	AcoustiTECH Sofix + 5/8” plywood + ½” plywood + Soprema Insonofloor		-	51[3]	
	AcoustiTECH Sofix + 2 layers 5/8” OSB + AcoustiTECH Ceramic	Ceramic Tile	-	54[3]	4
	AcoustiTECH LEAD 6 + AcoustiTECH Sofix + 2 layers 5/8” OSB + AcoustiTECH Ceramic		-	58[3]	
CLT 7-ply (8.75”)	½” plywood on 5/8” plywood on AcoustiTECH Sofix on AcoustiTECH Lead 6	5/8” Wood	56[2] ASTC	53[2] AIIC	125
CLT 7-ply (9.875”)	None	None	44	30	20

Table 3 Notes:

1. All STC tests performed in accordance with ASTM E 90 unless otherwise noted below. All IIC tests performed in accordance with ASTM E 492 unless otherwise noted below. See end of document for sources and referenced test reports.
2. ASTC field tests performed in accordance with ASTM E 336. AIIC field tests performed in accordance with ASTM E 1007.
3. IIC tests not performed in accordance with a singular test standard. Test measurement method used a combination of ASTM E492 and ASTM 1007 per acoustical mat product manufacturer.
4. FSTC field test performed in accordance with ASTM E 336. AIIC field test not performed in accordance with ASTM E 1007 (inadequate number of measurements).
5. STC and IIC noted is a prediction based on the ISO 15712-1 prediction method as noted in the referenced test report.

Table 4: Mass Timber Floor Assemblies with Raised Access Floor or Wood Sleepers, Ceiling Side Exposed



CLT Panel	Raised Access Floor or Sleeper + Acoustical Product on CLT Panel (from top to bottom)	Finish Floor	STC[1]	IIC[1]	Source
CLT 5-ply (5.1875")	1-1/2" concrete on Soprema Insonomat on 5/8" OSB on wood rafts w/batts on AcoustiTECH Soprema Acoustiboard Strips	None	-	56[3]	4
		Eng Wood on Soprema Insonofloor	-	61[3]	
	1-1/2" concrete on Regupol SonusWave on 5/8" OSB on wood rafts w/batts on AcoustiTECH Soprema Acoustiboard Strips	None	-	57[3]	
		Eng Wood on Soprema Insonofloor	-	63[3]	
	1-1/2" concrete on Soprema Insonomat on 5/8" OSB on wood rafts w/sand on AcoustiTECH Soprema Acoustiboard Strips	None	-	57[3]	
		Eng Wood on Soprema Insonofloor	-	61[3]	
	1-1/2" concrete on Regupol SonusWave on 5/8" OSB on wood rafts w/batts on AcoustiTECH Soprema Acoustiboard Strips	None	-	58[3]	
		Eng Wood on Soprema Insonofloor	-	64[3]	
	1-1/2" concrete on Regupol SonusWave (0.67") on OSB on Wood rafts w/batts	LVT on Roberts Soft Stride	-	58	3
	OSB on Wood rafts w/sand	None	52	47	
	Fermacell 2E31 on OSB on Wood rafts w/sand		59	53	
	Regupol SonoDeck on OSB on Wood rafts w/sand		56	50	
	1-1/2" concrete on OSB on Wood rafts w/sand		64	53	
	1-1/2" concrete on Regupol SonuWave (0.67") on OSB on Wood rafts (no sand or batts)		59	54	
	1-1/2" concrete on Regupol SonuWave (0.67") on OSB on Wood rafts w/batts		60	54	
	1-1/2" concrete on Regupol SonuWave (0.67") on OSB on Wood rafts w/sand		66	60	

Table 4 Continued: Mass Timber Floor Assemblies with Raised Access Floor or Wood Sleepers, Ceiling Side Exposed

CLT Panel	Raised Access Floor or Sleeper + Acoustical Product on CLT Panel (from top to bottom)	Finish Floor	STC[1]	IIC[1]	Source
CLT 5-ply (6.875")	Global IFS TecCrete Raised Access Floor System @ 10" deep on ¾" Huber EXACOR	None	53[6]	40[6]	175
		LVT	53[6]	49[6]	176
		Carpet Tile	53[6]	55[6]	177
	Global IFS TecCrete Raised Access Floor System @ 10" deep on 1" Levelrock® Brand 2500	None	53[6]	39[6]	175
	Global IFS TecCrete Raised Access Floor System @ 10" deep with pedestal base isolators on 1" Levelrock® Brand 2500		53[6]	45[6]	
	Global IFS SteelCrete Raised Access Floor System @ 10" deep on ¾" Huber EXACOR	None	53[6]	42[6]	178
		Eng Wood	55[6]	48[6]	179
	Global IFS SteelCrete Raised Access Floor System @ 10" deep on 1" Levelrock® Brand 2500	None	53[6]	39[6]	178
		Eng Wood	55[6]	52[6]	179
	Global IFS TecCrete Raised Access Floor System @ 10" deep on 1" Levelrock® Brand 2500 on USG SAM N25	None	55[6]	42[6]	135
		LVT	56[6]	45[6]	143
		Carpet Tile	55[6]	49[6]	139
	Global IFS TecCrete Raised Access Floor System @ 10" deep on 1" Levelrock® Brand 2500 on USG SAM N25 Ultra	None	55[6]	47[6]	134
		LVT	56[6]	51[6]	142
		Carpet Tile	55[6]	50[6]	138
	Global IFS TecCrete Raised Access Floor System @ 10" deep on 1-½" Levelrock® Brand 2500 on USG SAM N75 Ultra	None	55[6]	48[6]	136
		LVT	56[6]	51[6]	144
		Carpet Tile	55[6]	52[6]	140
	Global IFS TecCrete Raised Access Floor System @ 10" deep on 1-½" Levelrock® Brand 2500 on USG SRB on USG SAM N25 Ultra	None	55[6]	49[6]	133
		LVT	56[6]	53[6]	141
		Carpet Tile	55[6]	53[6]	137
	1" Levelrock® Brand 2500 on USG SAM-N25™ on ¾" OSB on 2x4 sleepers at 24" o.c. with 3-1/2" R-13 fiberglass batt insulation in cavity	Eng Wood	55[6]	50[6]	153
		LVT	55[6]	50[6]	152
		Ceramic Tile on NobleSeal CIS	56[6]	50[6]	155
		Carpet + pad	56[6]	72[6]	154
	3/4" Levelrock® Brand 2500 on USG SRB™ on ¾" OSB on 2x4 sleepers at 24" o.c. with 3-1/2" R-13 fiberglass batt insulation in cavity	Eng Wood	55[6]	46[6]	153
		LVT	55[6]	48[6]	152
		Ceramic Tile on NobleSeal CIS	56[6]	46[6]	155
		Carpet + pad	56[6]	72[6]	154

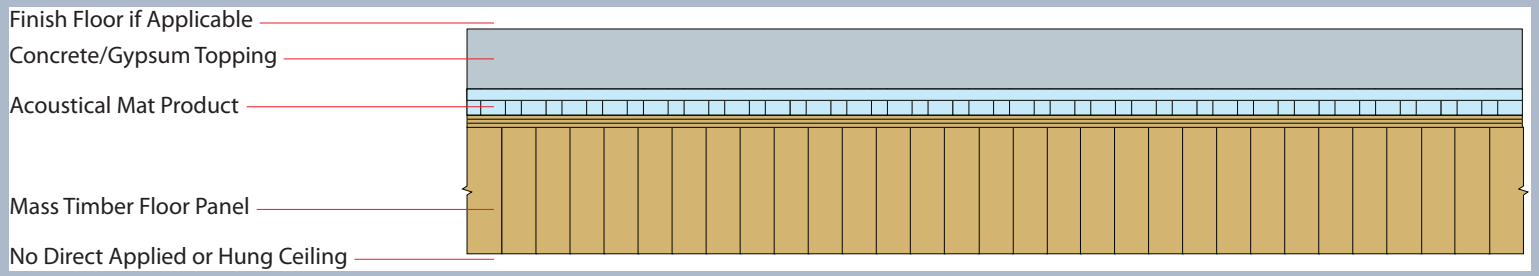
Table 4 Continued: Mass Timber Floor Assemblies with Raised Access Floor or Wood Sleepers, Ceiling Side Exposed

CLT Panel	Raised Access Floor or Sleeper + Acoustical Product on CLT Panel (from top to bottom)	Finish Floor	STC[1]	IIC[1]	Source
CLT 5-ply (6.875")	3/4" Levelrock® Brand 2500 on USG SAM-N12™ on ¾" OSB on 2x4 sleepers at 24" o.c. with 3-1/2" R-13 fiberglass batt insulation in cavity	Eng Wood	55[6]	49[6]	153
		LVT	55[6]	47[6]	152
		Ceramic Tile on NobleSeal CIS	56[6]	45[6]	155
		Carpet + pad	56[6]	71[6]	154
	1" Levelrock® Brand 2500 on USG SAM-N25™ Ultra on ¾" OSB on 2x4 sleepers at 24" o.c. with 3-1/2" R-13 fiberglass batt insulation in cavity	Eng Wood	55[6]	50[6]	153
		LVT	55[6]	52[6]	152
		Ceramic Tile on NobleSeal CIS	56[6]	51[6]	155
		Carpet + pad	56[6]	75[6]	154
2x6 NLT + 5/8" plywood	Global IFS TecCrete Raised Access Floor System @ 16" deep on 1" Levelrock® Brand 2500	None	46[2] ASTC	27[2] AIIC	126
		LVT	48[2] ASTC	36[2] AIIC	
		Carpet Tile	46[2] ASTC	45[2] AIIC	
GLT 3.5"	OSB on Wood rafts w/sand	None	51	47	3
	1-1/2" concrete on Regupol SonusWave (0.67") on OSB on Wood rafts w/sand		65	59	
		LVT on Roberts Soft Stride	-	62	

Table 4 Notes:

1. All STC tests performed in accordance with ASTM E 90 unless otherwise noted below. All IIC tests performed in accordance with ASTM E 492 unless otherwise noted below. See end of document for sources and referenced test reports.
2. ASTC field tests performed in accordance with ASTM E 336. AIIC field tests performed in accordance with ASTM E 1007.
3. IIC tests not performed in accordance with a singular test standard. Test measurement method used a combination of ASTM E492 and ASTM 1007 per acoustical mat product manufacturer.
4. FSTC field test performed in accordance with ASTM E 336. AIIC field test not performed in accordance with ASTM E 1007 (inadequate number of measurements).
5. STC and IIC noted is a prediction based on the ISO 15712-1 prediction method as noted in the referenced test report.
6. STC and IIC noted is based on floor zone testing procedures that are modifications of ASTM E90 and E492 test and do not fully conform with these test standards per acoustical mat product manufacturer and as noted in the referenced test report.

Table 5: NLT, GLT & T&G Decking Floor Assemblies, Ceiling Side Exposed



Mass Timber Floor Panel	Concrete/Gypsum Topping	Acoustical Product Between Mass Timber and Topping	Finish Floor	STC[1]	IIC[1]	Source
2x4 NLT + ¾" plywood	None	None	None	29	-	21
2x6 NLT + ½" plywood	None	None	None	34	33	55
		¾" USG concrete structural panels on 362S137 steel studs @ 16" o.c. on Kinetics® RIM-L-2-16 System	None	54	45	27
		2 layers of ¾" USG concrete structural panels on T125 cold formed steel track at @ 16" o.c. on Kinetics® KIP22L2 Isolators @ 16" o.c. with 2" fiberglass insulation loose between track channels	None	56	45	101
			LVT	55	53	102
	2" Gyp-Crete®	Maxxon Acousti-Mat® ¾ Premium	None	47[2] ASTC	-	9
			LVT on Acousti-Top®	-	47[2] AIIC	28
	2-1/2" concrete	Kinetics® Ultra Quiet SR	None	56	48	23
			Engineered Hardwood	56	52	24
			LVT	55	57	25
	4" concrete	None	None	51	36	8
		Pliteq GenieMat™ FF06		51	44	7
			Carpet	51	58	49
		Pliteq GenieMat™ FF25	None	54	50	50
		Pliteq GenieMat™ FF50		56	52	51
		Pliteq GenieMat™ FF75		56	53	52

Table 5 Continued: NLT, GLT & T&G Decking Floor Assemblies, Ceiling Side Exposed

Mass Timber Floor Panel	Concrete/Gypsum Topping	Acoustical Product Between Mass Timber and Topping	Finish Floor	STC[1]	IIC[1]	Source
2x8 NLT + ¾" plywood	None	None	None	31	-	21
2x10 NLT + ¾" plywood	None	None	None	36	-	21
2x12 NLT	1-1/2" concrete	None	None	53	-	21
		0.35" (9mm) closed-cell foam		56	-	
		½" wood fiberboard		58	-	
2x12 NLT + ¾" plywood	None	None	None	41	-	21
	1-1/2" concrete	Pliteq GenieMat™ FF06	None	56	45	17
		Pliteq GenieMat™ FF10		57	47	18
		Pliteq GenieMat™ FF25		60	51	19
GLT 3.5"	None	None	None	35	20	3
		Fermacell 2E31		47	37	
	2-3/4" concrete	Regupol SonusWave (1.0")	None	54	45	3
	2-3/4" cement mortar	½" Insonomat	None	51	42	68
			Carpet tiles	52	51	

Table 5 Continued: NLT, GLT & T&G Decking Floor Assemblies, Ceiling Side Exposed

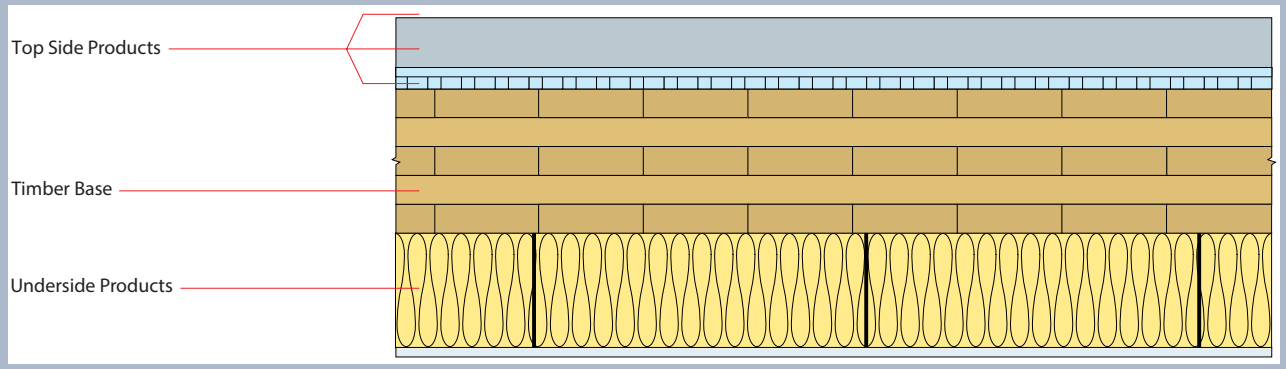
Mass Timber Floor Panel	Concrete/Gypsum Topping	Acoustical Product Between Mass Timber and Topping	Finish Floor	STC[1]	IIC[1]	Source
T&G Decking	None	None	None	29	24	2
		Wood flooring on 5/8" plywood on 1" Kinetics RIM Isolation Material	Hardwood	49[2] ASTC	48[2] FIIC	11
	1-1/2" gypsum	Wood flooring on ¾" sleepers on gypsum on 2 layers ½" OSB on 1" Kinetics® RIM L-1-16	Hardwood	50[4] FSTC	45[4] FIIC	57
	2" gypsum	Pliteq GenieMat™ FF42 (FF17 + FF25) on ½" cement board	None	53	-	46
			LVT on Pliteq GenieMat™ RST05	-	52	
	3" LW concrete	Concrete on 6 mil poly vapor barrier on ½" plywood on 2" Kinetics® Model RIM Isolation Material on ½" plywood on 3" T&G	None	62[2] NNIC	54[2] FIIC	26
	4" concrete	None	None	40	34	2
		Pliteq GenieMat™ FF42		54	51	
		Pliteq GenieMat™ FF42 on ½" cement board on 1" T&G on 3" T&G		54	52	47
		½" plywood on 2" Kinetics® RIM system on 1" T&G on 3" T&G		53	40	48
Wood Subfloor	1-1/2" Gyp-Crete®	Maxxon Acousti-Mat® ¾	Tile	47[2] FSTC	-	1
			Eng Wood	-	52[2] FIIC	
			LVT	-	46[2] FIIC	
		Maxxon Acousti-Mat® ¾ + Acousti-Mat® SBR	Cementitious Overlayment	52[2] FSTC	51[2] FIIC	
	2" concrete	Maxxon Acousti-Mat® ¾ Premium	None	-	47[2] AIIC	1

Table 5 Continued: NLT, GLT, MPP & T&G Decking Floor Assemblies, Ceiling Side Exposed

Table 5 Notes:

1. All STC tests performed in accordance with ASTM E 90 unless otherwise noted below. All IIC tests performed in accordance with ASTM E 492 unless otherwise noted below. See end of document for sources and referenced test reports.
2. ASTC field tests performed in accordance with ASTM E 336. AIIC field tests performed in accordance with ASTM E 1007.
3. IIC tests not performed in accordance with a singular test standard. Test measurement method used a combination of ASTM E492 and ASTM 1007 per acoustical mat product manufacturer.
4. FSTC field test performed in accordance with ASTM E 336. AIIC field test not performed in accordance with ASTM E 1007 (inadequate number of measurements).
5. STC and IIC noted is a prediction based on the ISO 15712-1 prediction method as noted in the referenced test report.

Table 6: Mass Timber Floor Assemblies with Ceiling Side Concealed



Timber Base	Top Side Products	Underside Products	STC[1]	IIC[1]	Source
CLT 3-ply (4”)	3/4” Levelrock® Brand 2500 on USG SAM-N12™	1 layer 5/8” type X gypsum hung on 1-1/2” cross tees @ 2’-0” o.c. 4” below CLT. 3-1/2” batt insulation in cavity	59[6]	57[6]	156
	1” Levelrock® Brand 2500 on USG SAM-N25™		59[6]	59[6]	
	1” Levelrock® Brand 2500 on USG SAM-N25™ Ultra		59[6]	64[6]	
	3/4” Levelrock® Brand 2500 on USG SRB™		59[6]	60[6]	
	LVT on 3/4” Levelrock® Brand 2500 on USG SAM-N12™		58[6]	58[6]	157
	LVT on 1” Levelrock® Brand 2500 on USG SAM-N25™		58[6]	61[6]	
	LVT on 1” Levelrock® Brand 2500 on USG SAM-N25™ Ultra		58[6]	62[6]	
	LVT on 3/4” Levelrock® Brand 2500 on USG SRB™		58[6]	62[6]	
	Eng. Wood on 3/4” Levelrock® Brand 2500 on USG SAM-N12™		59[6]	60[6]	158
	Eng. Wood on 1” Levelrock® Brand 2500 on USG SAM-N25™		59[6]	61[6]	
	Eng. Wood on 1” Levelrock® Brand 2500 on USG SAM-N25™ Ultra		59[6]	64[6]	
	Eng. Wood on 3/4” Levelrock® Brand 2500 on USG SRB™		59[6]	64[6]	
	Carpet + pad on 3/4” Levelrock® Brand 2500 on USG SAM-N12™		59[6]	82[6]	159
	Carpet + pad on 1” Levelrock® Brand 2500 on USG SAM-N25™		59[6]	85[6]	
	Carpet + pad on 1” Levelrock® Brand 2500 on USG SAM-N25™ Ultra		59[6]	88[6]	
	Carpet + pad on 3/4” Levelrock® Brand 2500 on USG SRB™		59[6]	86[6]	

Table 6 Continued: Mass Timber Floor Assemblies with Ceiling Side Concealed

Timber Base	Top Side Products	Underside Products	STC[1]	IIC[1]	Source
CLT 3-ply (4")	Ceramic tile on NobleSeal CIS on 3/4" Levelrock® Brand 2500 on USG SAM-N12™	1 layer 5/8" type X gypsum hung on 1-1/2" cross tees @ 2'-0" o.c. 4" below CLT. 3-1/2" batt insulation in cavity	59[6]	61[6]	160
	Ceramic tile on NobleSeal CIS on 1" Levelrock® Brand 2500 on USG SAM-N25™		59[6]	63[6]	
	Ceramic tile on NobleSeal CIS on 1" Levelrock® Brand 2500 on USG SAM-N25™ Ultra		59[6]	67[6]	
	Ceramic tile on NobleSeal CIS on 3/4" Levelrock® Brand 2500 on USG SRB™		59[6]	63[6]	
CLT 5-ply (5.1875")	9 mm Laminate floor on 3 mm AxcoustiTECH Premium Felt Membrane on 1-1/2" concrete on 10 MM Tar Boards	2 layers 5/8" type C gypsum hung on 7/8" furring channels @ 16" o.c. hung on 1-1/2" channels @ 4'-0" o.c. 6" below CLT. 3-5/8" batt insulation in cavity	75	66	68
CLT 5-ply (5.75")	None	4" tall sound isolation clips, 4" batt insulation in cavity, metal hat channels at 16" o.c. attached to sound isolation clips, 2 layers of ½" gypsum board	64[8]	59[8]	6
		8" tall sound isolation clips, 8" batt insulation in cavity, metal hat channels at 16" o.c. attached to sound isolation clips, 2 layers of ½" gypsum board	63[8]	62[8]	
	¼" laminated flooring, 5 mm Phaltex low-density wood fiberboard	4" tall sound isolation clips, 4" batt insulation in cavity, metal hat channels at 16" o.c. attached to sound isolation clips, 2 layers of ½" gypsum board	62[8]	63[8]	
	¼" laminated flooring, 10 mm Phaltex low-density wood fiberboard		63[8]	64[8]	
	2 layers of 7/8" particle board, 1-5/8"x1-5/8" wood sleepers at 16" o.c., 1-5/8" mineral wool insulation between wood sleepers, Regupol underlayment		67[8]	62[8]	
	2 layers ½" gypsum board, 20 mm dry topping (Fermacell or cement fiberboard)		63[8]	63[8]	
	Floorboard, 1-5/8"x1-5/8" wood sleepers at 16" o.c., 2 layers Thermisorel 20 mm low-density wood fiberboard between sleepers		64[8]	65[8]	
	5/8" OSB, Roberts flooring underlayment, 1-5/8"x1-5/8" wood sleepers at 16" o.c., 2 layers Thermisorel 20 mm low-density wood fiberboard between sleepers, Roberts flooring underlayment	8" tall sound isolation clips, 8" batt insulation in cavity, metal hat channels at 16" o.c. attached to sound isolation clips, 2 layers of ½" gypsum board	62[8]	62[8]	

Table 6 Continued: Mass Timber Floor Assemblies with Ceiling Side Concealed

Timber Base	Top Side Products	Underside Products	STC[1]	IIC[1]	Source
CLT 5-ply (6.3")	2.36" (60mm) concrete, Rothoblaas Barrier 100, 1.18" (30mm) mineral wool insulation, 3.15" (80mm) compact gravel fill with cement, Rothoblaas Silent Floor	Resilient plasterboard connectors, metal structure for plasterboard (channels), 0.4" (10mm) air space, 2" (50mm) low-density mineral insulation, 0.5" plasterboard panel	59	44	12
CLT 5-ply (6.875")	None	2 layers ½" type X gypsum	42	25	20
		2 layers ½" type X gypsum + 2x2 wood furring @ 24" o.c.	50	36	
		2 layers ½" type X gypsum hung on metal grillage 5.9" (150 mm) below CLT	68	56	
		2 layers ½" type X gypsum directly attached to CLT and additional acoustic hung ceiling, 5/8" type X gypsum hung on metal grillage 5.9" (150 mm) below CLT	67	55	
		Pliteq GenieClip™ LB on 48"x48" grid, 6" airspace, R-13 fiberglass batt insulation, 1-1/2" light gauge steel channels, 5/8" furring channel, 5/8" type X gypsum board	58	45	39
		Pliteq GenieClip™ RST on 24"x48" grid, 1-1/2" airspace, R-8 fiberglass batt insulation, 7/8" furring channel, 5/8" type C gypsum board	53	45	41
		3-1/2" z-channels @ 16" o.c. direct applied to CLT + 3-5/8" cavity batt insulation + 5/8" furring channels @ 16" o.c. + 1 layer 5/8" type X gypsum	62	48	68
	10 mm laminated or eng. Wood flooring, 3 mm resilient underlayment (Isonobois or sim.)	4" tall sound isolation clips, 4" batt insulation in cavity, metal hat channels at 16" o.c. attached to sound isolation clips, ½" type C gypsum board, ½" type X gypsum board	50[8]+ FSTC	50[8]+ FIIC	6
	Hardwood flooring, ¾" plywood, 10 mm underlayment (IsonoMat or sim.)		53[8]+ FSTC	53[8]+ FIIC	
	Ceramic tile, ½" plywood, ¾" plywood, 10 mm underlayment (IsonoMat or sim.)		53[8]+ FSTC	53[8]+ FIIC	

Table 6 Continued: Mass Timber Floor Assemblies with Ceiling Side Concealed

Timber Base	Top Side Products	Underside Products	STC[1]	IIC[1]	Source
CLT 5-ply (6.875")	3/4" Gyp-Crete®, Maxxon Acousti-Mat® 1/8	2 layers 5/8" type X gypsum direct applied to CLT + 1 layer 5/8" type X gypsum hung on wire grid and Armstrong WAVE Isolator Clips to create 6" plenum	59	51	80
	LVT, 3/4" Gyp-Crete®, Maxxon Acousti-Mat® 1/8		59	54	81
	Vinyl plank on Pliteq GenieMat™ RST05	Pliteq GenieClip™ LB on 48"x48" grid, 6" airspace, R-13 fiberglass batt insulation, 1-1/2" light gauge steel channels, 5/8" furring channel, 5/8" type X gypsum board	58	58	40
	½" engineered wood on Pliteq GenieMat™ RST02	Pliteq GenieClip™ RST on 24"x48" grid, 1-1/2" airspace, R-8 fiberglass batt insulation, 7/8" furring channel, 5/8" type C gypsum board	54	50	42
	Porcelain tile on Pliteq GenieMat™ RST12		55	51	43
	2x12 mm cement board on ½" wood fiberboard	2 layers ½" type X gypsum	48[5]	38[5]	20
		2 layers ½" type X gypsum + 2x2 wood furring @ 24" o.c.	54[5]	47[5]	
		2 layers ½" type X gypsum hung on metal grillage 5.9" (150 mm) below CLT	69	63	
		2 layers ½" type X gypsum direct applied to CLT + 1 layer 5/8" type X gypsum hung on metal grillage 5.9" (150 mm) below CLT	68[5]	60[5]	
	1" Gyp-Crete®, Maxxon Acousti-Mat® 3/8 Premium	2 layers 5/8" type X gypsum	52	46	82
	LVT, 1" Gyp-Crete®, Maxxon Acousti-Mat® 3/8 Premium		52	48	83
	1" Gyp-Crete®, Maxxon Acousti-Mat® 3/8 Premium	2 layers 5/8" type X gypsum direct applied to CLT + 1 layer 5/8" type X gypsum hung on wire grid and Armstrong WAVE Isolator Clips to create 6" plenum. R-13 batt insulation in plenum	63	60	84
	LVT, 1" Gyp-Crete®, Maxxon Acousti-Mat® 3/8 Premium		63	63	85
	1-1/2" gypsum concrete on 0.35" (9 mm) closed-cell foam	2 layers ½" type X gypsum	50[5]	41[5]	20
		2 layers ½" type X gypsum + 2x2 wood furring @ 24" o.c.	58[5]	49[5]	
		2 layers ½" type X gypsum hung on metal grillage 5.9" (150 mm) below CLT	72	63	

Table 6 Continued: Mass Timber Floor Assemblies with Ceiling Side Concealed

Timber Base	Top Side Products	Underside Products	STC[1]	IIC[1]	Source
CLT 5-ply (6.875")	1-1/2" gypsum concrete on 0.35" (9 mm) closed-cell foam	2 layers ½" type X gypsum direct applied to CLT + 1 later 5/8" type X gypsum hung on metal grillage 5.9" (150 mm) below CLT	73[5]	63[5]	20
	1-1/2" concrete	2 layers ½" type X gypsum	49[5]	32[5]	
		2 layers ½" type X gypsum + 2x2 wood furring @ 24" o.c.	56[5]	41[5]	
		2 layers ½" type X gypsum hung on metal grillage 5.9" (150 mm) below CLT	75[5]	60[5]	
		2 layers ½" type X gypsum direct applied to CLT + 1 later 5/8" type X gypsum hung on metal grillage 5.9" (150 mm) below CLT	74[5]	60[5]	
	1-1/2" concrete on 0.35" (9 mm) closed-cell foam	2 layers ½" type X gypsum	53[5]	40[5]	
		2 layers ½" type X gypsum + 2x2 wood furring @ 24" o.c.	59[5]	50[5]	
		2 layers ½" type X gypsum hung on metal grillage 5.9" (150 mm) below CLT	76[5]	66[5]	
	1-1/2" concrete on 0.35" (9 mm) closed-cell foam	2 layers ½" type X gypsum direct applied to CLT + 1 later 5/8" type X gypsum hung on metal grillage 5.9" (150 mm) below CLT	74[5]	64[5]	
	1-1/2" concrete on 0.35" (9 mm) Owens Corning QuietZone closed-cell foam	3-1/2" z-channels @ 16" o.c. direct applied to CLT + 3-5/8" cavity batt insulation + 5/8" furring channels @ 16" o.c. + 1 layer 5/8" type X gypsum	70	56	68
		2 layers 5/8" type C gypsum hung on 7/8" furring channels @ 16" o.c. hung on 1-1/2" channels @ 4'-0" o.c. 2-1/2" below CLT. 3-5/8" batt insulation in cavity	72	65	
		2 layers 5/8" type C gypsum hung on ½" resilient channels @ 16" o.c. on 7/8" furring channels @ 16" o.c. hung on 1-1/2" channels @ 4'-0" o.c. 2" below CLT. 3-5/8" batt insulation in cavity	73	66	
		1 layer 5/8" type C gypsum hung on ½" resilient channels @ 16" o.c. on 7/8" furring channels @ 16" o.c. hung on 1-1/2" channels @ 4'-0" o.c. 2" below CLT. 3-5/8" batt insulation in cavity	72	62	
	1-1/2" concrete on ½" wood fiberboard	2 layers ½" type X gypsum	53[5]	38[5]	20
		2 layers ½" type X gypsum + 2x2 wood furring @ 24" o.c.	59[5]	47[5]	

Table 6 Continued: Mass Timber Floor Assemblies with Ceiling Side Concealed

Timber Base	Top Side Products	Underside Products	STC[1]	IIC[1]	Source
CLT 5-ply (6.875")	1-1/2" concrete on ½" wood fiberboard	2 layers ½" type X gypsum hung on metal grillage 5.9" (150 mm) below CLT	76[5]	64[5]	20
		2 layers ½" type X gypsum direct applied to CLT + 1 later 5/8" type X gypsum hung on metal grillage 5.9" (150 mm) below CLT	73[5]	63[5]	
	Eng wood floor on AcoustiTECH VP on 1-1/2" concrete on ½" wood fiberboard	2 layers ½" type X gypsum hung on metal grillage 3.9" (100 mm) below CLT. 3-1/2" cavity batt insulation	55[2] ASTC	57[2] AIIC	69
	1-1/2" concrete on 0.75" recycled fabric felt	2 layers ½" type X gypsum	59[5]	46[5]	20
		2 layers ½" type X gypsum + 2x2 wood furring @ 24" o.c.	63[5]	45[5]	
	1-1/2" concrete on 0.75" recycled fabric felt	2 layers ½" type X gypsum hung on metal grillage 5.9" (150 mm) below CLT	77[5]	61[5]	20
		2 layers ½" type X gypsum direct applied to CLT + 1 later 5/8" type X gypsum hung on metal grillage 5.9" (150 mm) below CLT	75[5]	60[5]	
	1-1/2" concrete on ½" rubber nuggets on foil	2 layers ½" type X gypsum	53[5]	44[5]	
		2 layers ½" type X gypsum + 2x2 wood furring @ 24" o.c.	59[5]	49[5]	
		2 layers ½" type X gypsum hung on metal grillage 5.9" (150 mm) below CLT	73[5]	65[5]	
		2 layers ½" type X gypsum direct applied to CLT + 1 later 5/8" type X gypsum hung on metal grillage 5.9" (150 mm) below CLT	70[5]	63[5]	
	1-1/2" concrete on 0.31" (8 mm) shredded rubber mat	2 layers ½" type X gypsum	52[5]	38[5]	
		2 layers ½" type X gypsum + 2x2 wood furring @ 24" o.c.	58[5]	48[5]	
	1-1/2" concrete on 0.31" (8 mm) shredded rubber mat	2 layers ½" type X gypsum hung on metal grillage 5.9" (150 mm) below CLT	76[5]	66[5]	
		2 layers ½" type X gypsum direct applied to CLT + 1 later 5/8" type X gypsum hung on metal grillage 5.9" (150 mm) below CLT	74[5]	64[5]	
	1-1/2" concrete on 0.67" (17 mm) shredded rubber mat	2 layers ½" type X gypsum	54[5]	43[5]	

Table 6 Continued: Mass Timber Floor Assemblies with Ceiling Side Concealed

Timber Base	Top Side Products	Underside Products	STC[1]	IIC[1]	Source
CLT 5-ply (6.875")	1-1/2" concrete on 0.67" (17 mm) shredded rubber mat	2 layers ½" type X gypsum + 2x2 wood furring @ 24" o.c.	60[5]	51[5]	20
		2 layers ½" type X gypsum hung on metal grillage 5.9" (150 mm) below CLT	76[5]	67[5]	
		2 layers ½" type X gypsum direct applied to CLT + 1 layer 5/8" type X gypsum hung on metal grillage 5.9" (150 mm) below CLT	73[5]	65[5]	
	Eng wood on acoustic membrane on 1-1/2" concrete on ½" wood fiber board	3-1/2" z-channels @ 24" o.c. direct applied to CLT + 3-1/2" cavity batt insulation + 7/8" furring channels @ 16" o.c. + 1 layer 5/8" type X gypsum	58[2] ASTC	54[2] AIIC	71
	1-1/2" concrete on 0.39" (10 mm) Tar Boards	3-1/2" z-channels @ 16" o.c. direct applied to CLT + 3-5/8" cavity batt insulation + 5/8" furring channels @ 16" o.c. + 1 layer 5/8" type X gypsum	69	54	68
	Eng Wood on 2 mm closed cell foam on 1-1/2" concrete on 0.39" (10 mm) Tar Boards		69	58	
	2 layers 23/32" AdvanTech® on Pliteq GenieMat™ FF25	Pliteq GenieClip™ LB on 48"x48" grid, R-13 fiberglass batt insulation, 1-1/2" light gauge steel channels, 5/8" furring channel, 5/8" type X gypsum board	61	55	38
	½" engineered wood on Pliteq GenieMat™ RST02 on 2" gypsum on Pliteq GenieMat™ FF25	Pliteq GenieClip™ RST on 24"x48" grid, 1-1/2" airspace, R-8 fiberglass batt insulation, 7/8" furring channel, 5/8" type C gypsum board	59	52	44
	2" gypsum on Pliteq GenieMat™ FF25		60	52	45
	Carpet on 1.57" (40 mm) concrete	1 layer 5/8" type X gypsum direct applied to CLT + 1-1/2" furring channels + ¾" resilient channels @ 16" o.c. + 2 layers 5/8" type X gypsum	55[2] ASTC	53[2] AIIC	70
	2" concrete on Maxxon Acousti-Mat® SBR on Maxxon Acousti-Mat® 3/4	2 layers 5/8" type X gypsum direct applied to CLT	59	52	78
	LVT on Acousti-Top® on 2" concrete on Maxxon Acousti-Mat® SBR on Maxxon Acousti-Mat® 3/4	2 layers 5/8" type X gypsum direct applied to CLT	58	55	79

Table 6 Continued: Mass Timber Floor Assemblies with Ceiling Side Concealed

Timber Base	Top Side Products	Underside Products	STC[1]	IIC[1]	Source
CLT 5-ply (6.875")	1-1/2" Levelrock® Brand 2500 on USG SAM-N25™ Ultra	1 layer 5/8" type C gypsum hung on 1-1/2" cross tees @ 2'-0" o.c. 12" below CLT. 3-1/2" batt insulation in cavity	63[6]	56[6]	161
	1-1/2" Levelrock® Brand 2500 on Soprema® Insonomat		63[6]	63[6]	
	1-1/2" Levelrock® Brand 2500 on USG SAM-N75™ Ultra		63[6]	55[6]	
	1-1/2" Levelrock® Brand 2500 on USG SAM-N40™ Ultra		63[6]	60[6]	
	LVT on 1-1/2" Levelrock® Brand 2500 on USG SAM-N25™ Ultra		62[6]	62[6]	162
	LVT on 1-1/2" Levelrock® Brand 2500 on Soprema® Insonomat		62[6]	65[6]	
	LVT on 1-1/2" Levelrock® Brand 2500 on USG SAM-N75™ Ultra		62[6]	62[6]	
	LVT on 1-1/2" Levelrock® Brand 2500 on USG SAM-N40™ Ultra		62[6]	61[6]	
	LVT Plus on 1-1/2" Levelrock® Brand 2500 on USG SAM-N25™ Ultra		62[6]	62[6]	163
	LVT Plus on 1-1/2" Levelrock® Brand 2500 on Soprema® Insonomat		62[6]	65[6]	
	LVT Plus on 1-1/2" Levelrock® Brand 2500 on USG SAM-N75™ Ultra		62[6]	61[6]	
	LVT Plus on 1-1/2" Levelrock® Brand 2500 on USG SAM-N40™ Ultra		62[6]	62[6]	
	Eng Wood on 1-1/2" Levelrock® Brand 2500 on USG SAM-N25™ Ultra		62[6]	61[6]	164
	Eng Wood on 1-1/2" Levelrock® Brand 2500 on Soprema® Insonomat		62[6]	64[6]	
	Eng Wood on 1-1/2" Levelrock® Brand 2500 on USG SAM-N75™ Ultra		62[6]	62[6]	
	Eng Wood on 1-1/2" Levelrock® Brand 2500 on USG SAM-N40™ Ultra		62[6]	62[6]	
	Ceramic tile on NobleSeal CIS on 1-1/2" Levelrock® Brand 2500 on USG SAM-N25™ Ultra		63[6]	65[6]	165
	Ceramic tile on NobleSeal CIS on 1-1/2" Levelrock® Brand 2500 on Soprema® Insonomat		63[6]	68[6]	
	Ceramic tile on NobleSeal CIS on 1-1/2" Levelrock® Brand 2500 on USG SAM-N75™ Ultra		63[6]	64[6]	
	Ceramic tile on NobleSeal CIS on 1-1/2" Levelrock® Brand 2500 on USG SAM-N40™ Ultra		63[6]	64[6]	

Table 6 Continued: Mass Timber Floor Assemblies with Ceiling Side Concealed

Timber Base	Top Side Products	Underside Products	STC[1]	IIC[1]	Source
CLT 5-ply (6.875")	2" Levelrock® Brand 2500 on USG SRB™	1 layer 5/8" type C gypsum hung on 1-1/2" cross tees @ 2'-0" o.c. 12" below CLT. 3-1/2" batt insulation in cavity	63[6]	60[6]	166
	2" Levelrock® Brand 2500 on USG SAM-N25™ Ultra		63[6]	59[6]	
	2" Levelrock® Brand 2500 on USG SAM-N25™		63[6]	59[6]	
	LVT on 2" Levelrock® Brand 2500 on USG SRB™		63[6]	64[6]	167
	LVT on 2" Levelrock® Brand 2500 on USG SAM-N25™ Ultra		63[6]	65[6]	
	LVT on 2" Levelrock® Brand 2500 on USG SAM-N25™		63[6]	63[6]	
	LVT Plus on 2" Levelrock® Brand 2500 on USG SRB™		63[6]	65[6]	168
	LVT Plus on 2" Levelrock® Brand 2500 on USG SAM-N25™ Ultra		63[6]	65[6]	
	LVT Plus on 2" Levelrock® Brand 2500 on USG SAM-N25™		63[6]	63[6]	
	Eng Wood on 2" Levelrock® Brand 2500 on USG SRB™		62[6]	63[6]	169
	Eng Wood on 2" Levelrock® Brand 2500 on USG SAM-N25™ Ultra		62[6]	64[6]	
	Eng Wood on 2" Levelrock® Brand 2500 on USG SAM-N25™		62[6]	62[6]	
	Ceramic tile on NobleSeal CIS on 2" Levelrock® Brand 2500 on USG SRB™		63[6]	65[6]	170
	Ceramic tile on NobleSeal CIS on 2" Levelrock® Brand 2500 on USG SAM-N25™ Ultra		63[6]	66[6]	
	Ceramic tile on NobleSeal CIS on 2" Levelrock® Brand 2500 on USG SAM-N25™		63[6]	65[6]	

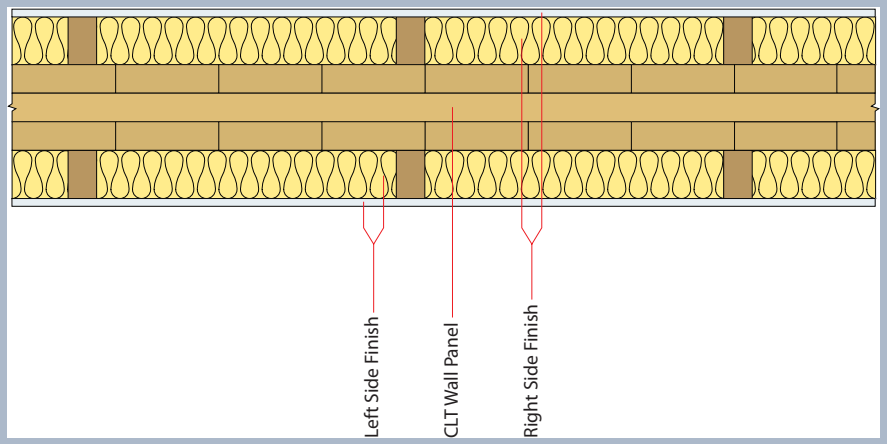
Table 6 Continued: Mass Timber Floor Assemblies with Ceiling Side Concealed

Timber Base	Top Side Products	Underside Products	STC[1]	IIC[1]	Source
CLT 7-ply (9.875")	None	2 layers ½" type X gypsum	45	29	20
	1-1/2" concrete on ½" wood fiberboard		56	44	
T&G Decking	4" concrete on Pliteq GenieMat™ FF06	Pliteq GenieClip™ RST, R-8 fiberglass batt insulation, 7/8" furring channel, 2 layers of 5/8" type C gypsum board	58	60	56
2x6 NLT + ½" plywood	4" concrete on Pliteq GenieMat™ FF06	Pliteq GenieClip™ RST on 24"x48" grid, 1-1/2" airspace, R-8 fiberglass batt insulation, 7/8" furring channel, 5/8" type C gypsum board	60	59	53
		Resilient channels, 5/8" type C gypsum board	55	49	54
MPP 5"	LVT on Acousti-Top® on 1-1/2" Gyp-Crete® on Maxxon Acousti-Mat® ¾ Premium	2 layers 5/8" type X gypsum	54	46	96
	1-1/2" Gyp-Crete® on Maxxon Acousti-Mat® ¾ Premium	2 layers 5/8" type X gypsum direct applied to MPP + 1 layer 5/8" type X gypsum hung on dropped ceiling 6" below MPP	61	52	97
	LVT on 1-1/2" Gyp-Crete® on Maxxon Acousti-Mat® ¾ Premium		63	55	98
	LVT on Acousti-Top® on 1-1/2" Gyp-Crete® on Maxxon Acousti-Mat® ¾ Premium		62	54	99
	Eng wood on 1-1/2" Gyp-Crete® on Maxxon Acousti-Mat® ¾ Premium		62	55	100
	Bamboo plywood on 30% glass filled nylon on Pliteq GenieMat™ RST 10	9" cavity with 5-1/2" batt insulation + 1 layer ½" OSB	55[2] NNIC	51[2] FIIC	127

Table 6 Notes:

1. All STC tests performed in accordance with ASTM E 90 unless otherwise noted below. All IIC tests performed in accordance with ASTM E 492 unless otherwise noted below. See end of document for sources and referenced test reports.
2. ASTC field tests performed in accordance with ASTM E 336. AIIC field tests performed in accordance with ASTM E 1007.
3. IIC tests not performed in accordance with a singular test standard. Test measurement method used a combination of ASTM E492 and ASTM 1007 per acoustical mat product manufacturer.
4. FSTC field test performed in accordance with ASTM E 336. AIIC field test not performed in accordance with ASTM E 1007 (inadequate number of measurements).
5. STC and IIC noted is a prediction based on the ISO 15712-1 prediction method as noted in the referenced test report
6. STC and IIC noted is based on floor zone testing procedures that are modifications of ASTM E90 and E492 test and do not fully conform with these test standards per acoustical mat product manufacturer and as noted in the referenced test report.
7. Actual thickness of CLT in this test was 6.3" (160 mm)
8. Assemblies included in the 1st edition of the CLT Handbook are included herein due to their legacy use. However, the testing standards used for these assemblies are European and direct correlation to IBC-referenced ASTM standards is not currently available.

Table 7: Single CLT Wall



CLT Wall Panel	Left Side Finish	Right Side Finish	STC[1]	Source
CLT 3-ply (3.07")	None	None	33	20
	2 layers ½" type X gypsum	None	38	
		2 layers ½" type X gypsum	38	
	2 layers ½" type X gypsum + 2x2 studs @ 16" o.c.	None	40[5]	
		2 layers ½" type X gypsum	44[5]	
		2 layers ½" type X gypsum + 2x2 studs @ 16" o.c.	39[5]	
	2 layers ½" type X gypsum + 2x2 studs @ 24" o.c.	None	45	
		2 layers ½" type X gypsum	47	
		2 layers ½" type X gypsum + 2x2 studs @ 16" o.c.	50	
		2 layers ½" type X gypsum + 2x2 studs @ 24" o.c.	51	
	2 layers ½" type X gypsum + 2x3 studs @ 24" o.c.	None	43[5]	
		2 layers ½" type X gypsum	44[5]	
		2 layers ½" type X gypsum + 2x2 studs @ 16" o.c.	49[5]	

Table 7 Continued: Single CLT Wall

CLT Wall Panel	Left Side Finish	Right Side Finish	STC[1]	Source
CLT 3-ply (3.07")	2 layers ½" type X gypsum + 2x3 studs @ 24" o.c.	2 layers ½" type X gypsum + 2x2 studs @ 24" o.c.	52[5]	20
		2 layers ½" type X gypsum + resilient channels @ 24" o.c. + 2x2 studs @ 16" o.c.	>60[5]	
		2 layers ½" type X gypsum + 2x3 studs @ 24" o.c.	50[5]	
	2 layers ½" type X gypsum + resilient channels @ 24" o.c. + 2x2 studs @ 16" o.c.	None	53[5]	
		2 layers ½" type X gypsum	56[5]	
		2 layers ½" type X gypsum + 2x2 studs @ 16" o.c.	53[5]	
		2 layers ½" type X gypsum + 2x2 studs @ 24" o.c.	60[5]	
		2 layers ½" type X gypsum + resilient channels @ 24" o.c. + 2x2 studs @ 16" o.c.	>60[5]	
	2 layers ½" type X gypsum + 2x3 studs @ 24" o.c. + ½" air gap	None	53[5]	
		2 layers ½" type X gypsum	54[5]	
		2 layers ½" type X gypsum + 2x2 studs @ 16" o.c.	57[5]	
		2 layers ½" type X gypsum + 2x2 studs @ 24" o.c.	>60[5]	
		2 layers ½" type X gypsum + resilient channels @ 24" o.c. + 2x2 studs @ 16" o.c.	>60[5]	
		2 layers ½" type X gypsum + 2x3 studs @ 24" o.c.	60[5]	
		2 layers ½" type X gypsum + 2x3 studs @ 24" o.c. + ½" air gap	>60[5]	
CLT 3-ply (3.75-4.5")	5/8" gypsum board + 2x3 studs @ 16" o.c. + mineral wool in stud cavity	5/8" gypsum board + 2x3 studs @ 16" o.c. + mineral wool in stud cavity	58[8]	6
CLT 3-ply (4.125")	5/8" gypsum board + 2x3 studs @ 16" o.c. + mineral wool in stud cavity + ½" air gap between CLT and stud wall	None	47[8] FSTC	6
		5/8" gypsum board + 2x3 studs @ 16" o.c. + mineral wool in stud cavity + ½" air gap between CLT and stud wall	50[8] FSTC	
CLT 5-ply (6.875")	None	None	38	20

Table 7 Continued: Single CLT Wall

CLT Wall Panel	Left Side Finish	Right Side Finish	STC[1]	Source
CLT 5-ply (6.875")	None	5/8" gypsum board + 2x4 + insulation	49	13
		2 layers ½" type X gypsum	43	20
		2 layers ½" type X gypsum + 2x2 studs @ 16" o.c.	45	
		2 layers ½" type X gypsum + 2x2 studs @ 24" o.c.	50	
		2 layers ½" type X gypsum + 2x3 studs @ 24" o.c.	49	
		2 layers ½" type X gypsum + resilient channels @ 24" o.c. + 2x2 studs @ 16" o.c.	58	
		2 layers ½" type X gypsum + 2x3 studs @ 24" o.c. + ½" air gap	59	
		2 layers 5/8" type X gypsum + 1-3/8" z-channels	53	68
		2 layers 5/8" type X gypsum directly attached to CLT + air gap + steel studs + ½" type C gypsum	62	
	5/8" gypsum board + resilient channels	5/8" gypsum board + resilient channels + 2x4 + insulation	48	13
	2 layers ½" type X gypsum	2 layers ½" type X gypsum	42	20
	2 layers ½" type X gypsum + 2x2 studs @ 16" o.c.	2 layers ½" type X gypsum	45	
		2 layers ½" type X gypsum + 2x2 studs @ 16" o.c.	39	
	2 layers ½" type X gypsum + 2x2 studs @ 24" o.c.	2 layers ½" type X gypsum	49[5]	
		2 layers ½" type X gypsum + 2x2 studs @ 16" o.c.	46[5]	
		2 layers ½" type X gypsum + 2x2 studs @ 24" o.c.	56	
	2 layers ½" type X gypsum + resilient channels @ 24" o.c. + 2x2 studs @ 16" o.c.	2 layers ½" type X gypsum	60[5]	
		2 layers ½" type X gypsum + 2x2 studs @ 24" o.c.	>60[5]	
		2 layers ½" type X gypsum + resilient channels @ 24" o.c. + 2x2 studs @ 16" o.c.	>60[5]	
		2 layers ½" type X gypsum + 2x2 studs @ 16" o.c.	55	
	2 layers ½" type X gypsum + 2x3 studs @ 24" o.c.	2 layers ½" type X gypsum	48[5]	

Table 7 Continued: Single CLT Wall

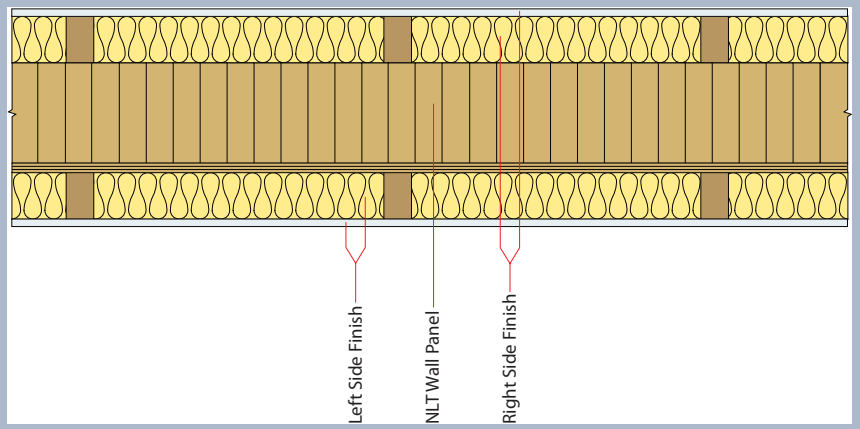
CLT Wall Panel	Left Side Finish	Right Side Finish	STC[1]	Source
CLT 5-ply (6.875")	2 layers ½" type X gypsum + 2x3 studs @ 24" o.c.	2 layers ½" type X gypsum + 2x2 studs @ 16" o.c.	51[5]	20
		2 layers ½" type X gypsum + 2x2 studs @ 24" o.c.	55	
	2 layers ½" type X gypsum + 2x3 studs @ 24" o.c.	2 layers ½" type X gypsum + 2x3 studs @ 24" o.c.	54[5]	
		2 layers ½" type X gypsum + resilient channels @ 24" o.c. + 2x2 studs @ 16" o.c.	>60[5]	
	2 layers ½" type X gypsum + 2x3 studs @ 24" o.c. + ½" air gap	2 layers ½" type X gypsum	59[5]	
		2 layers ½" type X gypsum + 2x2 studs @ 16" o.c.	59[5]	
		2 layers ½" type X gypsum + 2x2 studs @ 24" o.c.	>60[5]	
		2 layers ½" type X gypsum + 2x3 studs @ 24" o.c.	>60[5]	
		2 layers ½" type X gypsum + resilient channels @ 24" o.c. + 2x2 studs @ 16" o.c.	>60[5]	
		2 layers ½" type X gypsum + 2x3 studs @ 24" o.c. + ½" air gap	>60[5]	
	2 layers 5/8" type X gypsum	2 layers 5/8" type X gypsum directly attached to CLT + air gap + steel studs + ½" type C gypsum	61	68
	2 layers 5/8" type X gypsum + 1-3/8" z-channels	2 layers 5/8" type X gypsum + 3-5/8" steel studs + air gap	71	
		2 layers 5/8" type X gypsum + resilient channels + plywood strips	53	
		2 layers 5/8" type X gypsum	53	
		2 layers 5/8" type X gypsum directly attached to CLT + air gap + steel studs + ½" type C gypsum	65	
CLT 5-ply (7.25")	5/8" gypsum board + 25 gauge RC-1 resilient channels @ 24" o.c.	5/8" gypsum board + 25 gauge RC-1 resilient channels @ 24" o.c.	46[8] FSTC	6
CLT 7-ply (9.625")	2 layers 5/8" type X gypsum + 7/8" hat channels @ 16" o.c.	2 layers 5/8" type X gypsum + 3-1/2" steel studs @ 16" o.c. + cavity batt insulation + ¾" air gap	65[2] ASTC	71

Table 7 Continued: Single CLT Wall

Table 7 Notes:

1. All STC tests performed in accordance with ASTM E 90 unless otherwise noted below. All IIC tests performed in accordance with ASTM E 492 unless otherwise noted below. See end of document for sources and referenced test reports.
2. ASTC field tests performed in accordance with ASTM E 336. AIIC field tests performed in accordance with ASTM E 1007.
3. IIC tests not performed in accordance with a singular test standard. Test measurement method used a combination of ASTM E492 and ASTM 1007 per acoustical mat product manufacturer.
4. FSTC field test performed in accordance with ASTM E 336. AIIC field test not performed in accordance with ASTM E 1007 (inadequate number of measurements).
5. STC and IIC noted is a prediction based on the ISO 15712-1 prediction method as noted in the referenced test report
6. STC and IIC noted is based on floor zone testing procedures that are modifications of ASTM E90 and E492 test and do not fully conform with these test standards per acoustical mat product manufacturer and as noted in the referenced test report.
7. Actual thickness of CLT in this test was 6.3” (160 mm)
8. Assemblies included in the 1st edition of the CLT Handbook are included herein due to their legacy use. However, the testing standards used for these assemblies are European and direct correlation to IBC-referenced ASTM standards is not currently available.

Table 8: Single NLT Wall



NLT Wall Panel	Left Side Finish	Right Side Finish	STC[1]	Source
2x4 NLT	None	None	24	21
		¾" plywood	29	
		¾" OSB	30	
		2x2 @ 16" o.c. wood furring + 1-1/2" fiberglass batts + 2-layers ½" type X gypsum	40	
		½" air gap + 2x3 @ 24" o.c. wood studs + 2-1/2" fiberglass batts + 2-layers ½" type X gypsum	52	
		Plaster	34	
	¾" plywood	¾" plywood	33	
	Plaster	Plaster	34	
2x6 NLT	None	None	22	21
		¾" plywood	31	
		¾" OSB	32	
		Plaster	38	

Table 8 Continued: Single NLT Wall

NLT Wall Panel	Left Side Finish	Right Side Finish	STC[1]	Source
2x6 NLT	None	½" air gap + 2x3 @ 24" o.c. wood studs + 2-1/2" fiberglass batts + 2-layers ½" type X gypsum	60	21
		¾" plywood + 2x2 @ 16" o.c. wood furring + 1-1/2" fiberglass batts + 2-layers ½" type X gypsum	44	
	¾" plywood	2x2 @ 16" o.c. wood furring + 1-1/2" fiberglass batts + 2-layers ½" type X gypsum	45	
		¾" plywood + ½" air gap + 2x3 @ 24" o.c. wood studs + 2-1/2" fiberglass batts + 2-layers ½" type X gypsum	62	
	Plaster	Plaster	36	
2x8 NLT	None	None	24	21
		¾" plywood	31	
		¾" OSB	32	
		2x2 @ 16" o.c. wood furring + 1-1/2" fiberglass batts + 2-layers ½" type X gypsum	41	
		½" air gap + 2x3 @ 24" o.c. wood studs + 2-1/2" fiberglass batts + 2-layers ½" type X gypsum	55	
		¾" plywood + 2x2 @ 16" o.c. wood furring + 1-1/2" fiberglass batts + 2-layers ½" type X gypsum	43	
		¾" plywood + ½" air gap + 2x3 @ 24" o.c. wood studs + 2-1/2" fiberglass batts + 2-layers ½" type X gypsum	59	
		Plaster	38	
	¾" plywood	¾" plywood	35	
		2x2 @ 16" o.c. wood furring + 1-1/2" fiberglass batts + 2-layers ½" type X gypsum	45	
		½" air gap + 2x3 @ 24" o.c. wood studs + 2-1/2" fiberglass batts + 2-layers ½" type X gypsum	60	
2x10 NLT	None	None	29	21
		¾" plywood	36	
		¾" OSB	37	

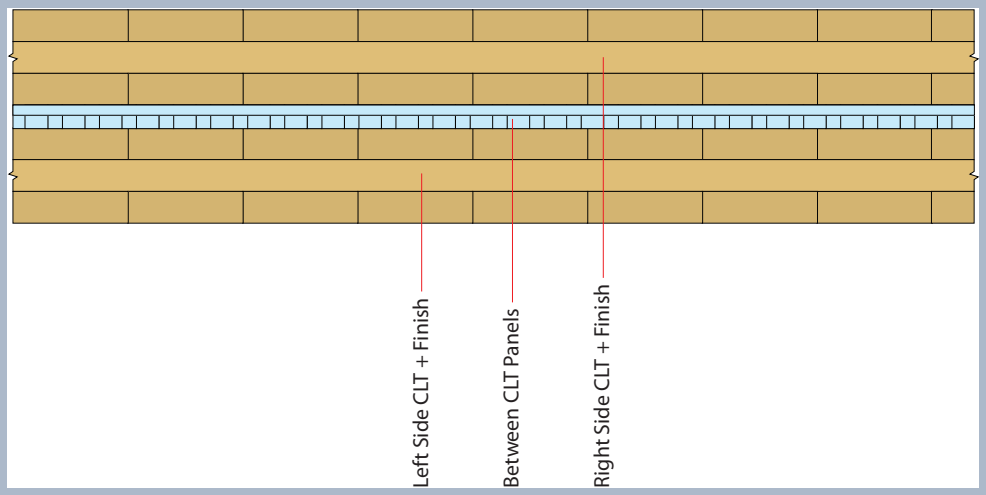
Table 8 Continued: Single NLT Wall

NLT Wall Panel	Left Side Finish	Right Side Finish	STC[1]	Source
2x10 NLT	None	¾" plywood + ½" air gap + 2x3 @ 24" o.c. wood studs + 2-1/2" fiberglass batts + 2-layers ½" type X gypsum	64	21
		¾" plywood + 2x2 @ 16" o.c. wood furring + 1-1/2" fiberglass batts + 2-layers ½" type X gypsum	47	
		Plaster	39	
	¾" plywood	2x2 @ 16" o.c. wood furring + 1-1/2" fiberglass batts + 2-layers ½" type X gypsum	46	
		½" air gap + 2x3 @ 24" o.c. wood studs + 2-1/2" fiberglass batts + 2-layers ½" type X gypsum	61	
		Plaster	41	
2x12 NLT	None	None	39	21
		¾" plywood	41	
		¾" OSB	41	
		¾" plywood + ½" air gap + 2x3 @ 24" o.c. wood studs + 2-1/2" fiberglass batts + 2-layers ½" type X gypsum	68	
		¾" plywood + 2x2 @ 16" o.c. wood furring + 1-1/2" fiberglass batts + 2-layers ½" type X gypsum	48	
		Plaster	42	
	¾" plywood	2x2 @ 16" o.c. wood furring + 1-1/2" fiberglass batts + 2-layers ½" type X gypsum	47	
		½" air gap + 2x3 @ 24" o.c. wood studs + 2-1/2" fiberglass batts + 2-layers ½" type X gypsum	63	

Table 8 Notes:

1. All STC tests performed in accordance with ASTM E 90 unless otherwise noted below. All IIC tests performed in accordance with ASTM E 492 unless otherwise noted below. See end of document for sources and referenced test reports.
2. ASTC field tests performed in accordance with ASTM E 336. AIIC field tests performed in accordance with ASTM E 1007.
3. IIC tests not performed in accordance with a singular test standard. Test measurement method used a combination of ASTM E492 and ASTM 1007 per acoustical mat product manufacturer.
4. FSTC field test performed in accordance with ASTM E 336. AIIC field test not performed in accordance with ASTM E 1007 (inadequate number of measurements).
5. STC and IIC noted is a prediction based on the ISO 15712-1 prediction method as noted in the referenced test report

Table 9: Double CLT Wall



Left Side CLT + Finish	Between CLT Panels	Right Side CLT + Finish	STC[1]	Source
CLT 3-ply (3”) + 25 gauge RC-1 resilient channels @ 24” o.c. + 5/8” gypsum board	1” mineral wool	CLT 3-ply (3”) + 25 gauge RC-1 resilient channels @ 24” o.c. + 5/8” gypsum board	47[8] FSTC	6
CLT 3-ply (3.07”)	1” insulation	CLT 3-ply (3.07”)	47	20
CLT 3-ply (3.07”) + 2 layers ½” type X gypsum	1” insulation	CLT 3-ply (3.07”)	53	20
		CLT 3-ply (3.07”) + 2 layers ½” type X gypsum	55	
CLT 3-ply (3.07”) + 2x2 studs @ 16” o.c. + 2 layers ½” type X gypsum	1” insulation	CLT 3-ply (3.07”)	49[5]	20
		CLT 3-ply (3.07”) + 2 layers ½” type X gypsum	53[5]	
		CLT 3-ply (3.07”) + 2x2 studs @ 16” o.c. + 2 layers ½” type X gypsum	43[5]	
CLT 3-ply (3.07”) + 2x2 studs @ 24” o.c. + 2 layers ½” type X gypsum	1” insulation	CLT 3-ply (3.07”)	56	20
		CLT 3-ply (3.07”) + 2 layers ½” type X gypsum	59[5]	
		CLT 3-ply (3.07”) + 2x2 studs @ 16” o.c. + 2 layers ½” type X gypsum	52[5]	
		CLT 3-ply (3.07”) + 2x2 studs @ 24” o.c. + 2 layers ½” type X gypsum	>60[5]	

Table 9 Continued: Double CLT Wall

Left Side CLT + Finish	Between CLT Panels	Right Side CLT + Finish	STC[1]	Source
CLT 3-ply (3.07") + 2x3 studs @ 24" o.c. + 2 layers ½" type X gypsum	1" insulation	CLT 3-ply (3.07")	56[5]	20
		CLT 3-ply (3.07") + 2 layers ½" type X gypsum	59[5]	
		CLT 3-ply (3.07") + 2x2 studs @ 16" o.c. + 2 layers ½" type X gypsum	55[5]	
		CLT 3-ply (3.07") + 2x2 studs @ 24" o.c. + 2 layers ½" type X gypsum	>60[5]	
		CLT 3-ply (3.07") + 2x2 studs @ 16" o.c. + resilient channels @ 24" o.c. + 2 layers ½" type X gypsum	>60[5]	
		CLT 3-ply (3.07") + 2x3 studs @ 24" o.c. + 2 layers ½" type X gypsum	>60[5]	
CLT 3-ply (3.07") + ½" air gap + 2x3 studs @ 24" o.c. + 2 layers ½" type X gypsum	1" insulation	CLT 3-ply (3.07")	>60[5]	20
		CLT 3-ply (3.07") + 2 layers ½" type X gypsum	>60[5]	
		CLT 3-ply (3.07") + 2x2 studs @ 16" o.c. + 2 layers ½" type X gypsum	>60[5]	
		CLT 3-ply (3.07") + 2x2 studs @ 24" o.c. + 2 layers ½" type X gypsum	>60[5]	
		CLT 3-ply (3.07") + 2x2 studs @ 16" o.c. + resilient channels @ 24" o.c. + 2 layers ½" type X gypsum	>60[5]	
		CLT 3-ply (3.07") + 2x3 studs @ 24" o.c. + 2 layers ½" type X gypsum	>60[5]	
		CLT 3-ply (3.07") + ½" air gap + 2x3 studs @ 24" o.c. + 2 layers ½" type X gypsum	>60[5]	
CLT 3-ply (3.07") + 2x2 studs @ 16" o.c. + resilient channels @ 24" o.c. + 2 layers ½" type X gypsum	1" insulation	CLT 3-ply (3.07")	>60[5]	20
		CLT 3-ply (3.07") + 2 layers ½" type X gypsum	>60[5]	
		CLT 3-ply (3.07") + 2x2 studs @ 16" o.c. + 2 layers ½" type X gypsum	57[5]	
		CLT 3-ply (3.07") + 2x2 studs @ 24" o.c. + 2 layers ½" type X gypsum	>60[5]	
		CLT 3-ply (3.07") + 2x2 studs @ 16" o.c. + resilient channels @ 24" o.c. + 2 layers ½" type X gypsum	>60[5]	
CLT 3-ply (3.75-4.5")	1.18" mineral wool	CLT 3-ply (3.75-4.5")	48-50[8]	6

Table 9 Continued: Double CLT Wall

Left Side CLT + Finish	Between CLT Panels	Right Side CLT + Finish	STC[1]	Source
CLT 3-ply (3.75-4.5”) + 5/8” gypsum board	1.18” mineral wool	CLT 3-ply (3.75-4.5”) + 5/8” gypsum board	55[8]	6
	2.36” mineral wool		60[8]	

Table 9 Notes:

1. All STC tests performed in accordance with ASTM E 90 unless otherwise noted below. All IIC tests performed in accordance with ASTM E 492 unless otherwise noted below. See end of document for sources and referenced test reports.
2. ASTC field tests performed in accordance with ASTM E 336. AIIC field tests performed in accordance with ASTM E 1007.
3. IIC tests not performed in accordance with a singular test standard. Test measurement method used a combination of ASTM E492 and ASTM 1007 per acoustical mat product manufacturer.
4. FSTC field test performed in accordance with ASTM E 336. AIIC field test not performed in accordance with ASTM E 1007 (inadequate number of measurements).
5. STC and IIC noted is a prediction based on the ISO 15712-1 prediction method as noted in the referenced test report.
6. STC and IIC noted is based on floor zone testing procedures that are modifications of ASTM E90 and E492 test and do not fully conform with these test standards per acoustical mat product manufacturer and as noted in the referenced test report.
7. Actual thickness of CLT in this test was 6.3” (160 mm)
8. Assemblies included in the 1st edition of the CLT Handbook are included herein due to their legacy use. However, the testing standards used for these assemblies are European and direct correlation to IBC-referenced ASTM standards is not currently available.

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This inventory is intended to be a design aid in the selection of materials used in mass timber wall or floor/ceiling assemblies for the purpose of achieving acoustical performance. This inventory is not a guarantee that a given assembly performs to a certain acoustical level. In some instances, this inventory references specific product names (i.e., Maxxon Acousti-Mat® ¾). In other instances, generic product names are used (i.e., 2" gypsum topping). Also, in some situations, the products used in a tested assembly have changed names even though the product itself has remained unchanged. The referenced test reports and manufacturer's information should be consulted as the final source for the specific conditions, materials and installation processes used for all components referenced herein.

The designer is responsible for confirming that all materials used in an assembly meet code requirements for acoustics as well as other performance criteria such as fire resistance, structural loadings, and durability.

Most tested assemblies referenced in this inventory were tested by a third-party testing agency in a laboratory or in the field (i.e., an agency not affiliated with a product manufacturer). However, some assemblies were tested by the manufacturer of a product in the assembly.

Mass of products used in an assembly can influence the acoustical performance. In most cases, the relative thickness of materials used in a tested assembly are noted in this inventory. However, it is up to the designer to verify that the density of those materials tested (CLT panel, concrete topping, etc.) match what is proposed for the assembly being designed and constructed.

Most tested assemblies referenced in this inventory were tested in a laboratory in accordance with ASTM E90 and ASTM E492. However, as noted in each table's footnotes, some tests were conducted in the field in accordance with ASTM E336 and ASTM E1007 or other noted testing protocols. Field tests are based on the specific conditions present in a given environment and take into account other influencing factors such as flanking paths (this is one of the reasons that IBC 2015 Sections 1207.2 and 1207.3 permit lower STC and IIC values if field tested). As noted in ASTM E336 and ASTM E1007, even when using an exact assembly from a field test in a different building or a different area in the same building, results can vary: "*The results stated in this report represent only the specific construction and acoustical conditions present at the time of the test. Measurements performed in accordance with this test method on nominally identical constructions and acoustical conditions may produce different results*."

For free project assistance or for any questions related to the assemblies referenced in this inventory, contact help@woodworks.org.

For questions related to a specific product referenced herein, contact the appropriate product manufacturer:

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