MAXXON

YOUR PROVEN SOUND CONTROL PARTNER FOR **MASS TIMBER**

BUILD BEAUTIFULLY. **BUILD CONFIDENTLY.**

Mass timber construction has revolutionized the construction industry and gained a stronghold due to its sustainability, decreased construction time and captivating beauty. Raw materials are left exposed to see the natural wood in the building. Mass timber continues to grow in popularity for new construction as well as renovation for modern commercial spaces and multifamily environments.

MAXXON® EXPERTISE: IDEALLY SUITED FOR MASS TIMBER

Mass timber has gained significant momentum in the U.S. since 2012. Recognizing the distinct advantages of this new construction method — from carbon sequestration and renewability to strength and versatility — Maxxon® began supporting mass timber in 2014 with proven solutions for fire and sound control subfloor assemblies to meet the unique demands of these projects. As the innovator of Maxxon Gyp-Crete® underlayment and Maxxon Acousti-Mat® sound control, Maxxon® has served mass timber construction across the U.S. with products covering more than 8.5 million square feet.

MAXXON EXPERTISE BY THE NUMBERS:

8.5+
MILLION SQUARE FEET of Maxxon Products in Mass Timber

450+
FIELD & SOUND LAB TESTS

55
COMPLETED PROJECTS AS OF **2022**

WORLD CLASS **ACOUSTICAL CHAMBER**

Maxxon's accredited* acoustics lab is a world-class floor/ceiling testing facility that allows us to better serve our customers by developing more effective products and by contributing to the industry's knowledge of sound transmission in buildings.

*Accredited by NVLAP (Lab code 600320-0) for ASTM E90, E492, and E2179

MAINTAIN AESTHETICS WITH ACOUSTICAL PERFORMANCE*

The biophilic aesthetic and high strength-to-weight ratio of mass timber make it an appealing choice for designers, builders, and occupants. However, its limited mass presents a sound control challenge, especially in exposed ceiling designs. Because acoustical privacy is almost always the first factor cited in occupant satisfaction, it should be one of the first considerations when designing multifamily residences and commercial buildings. Maxxon® delivers a comprehensive offering of subfloor assemblies for CLT to meet all contemporary occupant expectations.

ICC G2-2010 GUIDELINE FOR MULTIFAMILY RESIDENTIAL ACOUSTICS

	LABORATORY SOUND RATING	FIELD SOUND RATING†
COMMERCIAL*	45 STC/IIC	40 FSTC/FIIC
CODE MINIMUM	50 STC/IIC	45 FSTC/FIIC
ACCEPTABLE PERFORMANCE	55 STC/IIC	52 FSTC/FIIC
PREFERRED PERFORMANCE	60 STC/IIC	57 FSTC/FIIC

†The FSTC and FIIC terminology used by the ICC to refer to field testing has been superseded by the ASTC and AIIC in ASTM E336-19 and E1007-19.
*Commercial ratings are not regulated by code but are consistent with contemporary commercial construction performance.

COMMERCIAL

EXPECTED SYSTEM PERFORMANCE

SOUND CONTROL SYSTEM**	TOPICAL MAT	SOUND RATING
• 1" Maxxon Underlayment • Acousti-Mat 3/8 Premium	None	STC 53 / IIC 45

CODE MINIMUM

EXPECTED SYSTEM PERFORMANCE

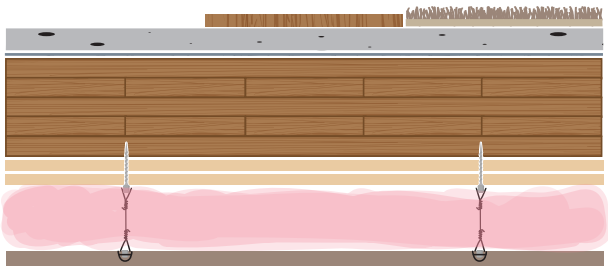
SOUND CONTROL SYSTEM**	TOPICAL MAT	SOUND RATING
• 2" Maxxon Underlayment • Acousti-Mat 3/8 Premium	2 mm Foam Mat	STC 53 / IIC 50

ACCEPTABLE

EXPECTED SYSTEM PERFORMANCE

SOUND CONTROL SYSTEM**	TOPICAL MAT	SOUND RATING
• 2" Maxxon Underlayment • Acousti-Mat 3/4 Premium • Acousti-Mat SBR	Maxxon Acousti-Top	STC 57 / IIC 54

PREFERRED



EXPECTED SYSTEM PERFORMANCE

SOUND CONTROL SYSTEM**	TOPICAL MAT	SOUND RATING
• 1" Maxxon Underlayment • Acousti-Mat 1/8 • Insulated gypsum board ceiling	None	STC 60 / IIC 64

*Maxxon Underlayments and Acousti-Mats are but single components of an effective sound control system. No sound control system is better than its weakest component. Care must be taken in the selection and installation of all components of construction to ensure the ultimate designed acoustical performance. For more information, including type of floor covering used and additional system component information, contact Maxxon Corporation. All data presented on this page is backed by third party testing. For copies of relevant test reports, contact Maxxon Corporation.
**Maxxon Underlayments are selected based on the end use requirements. Considerations should at minimum include: end use sound code requirements, floor goods strength requirements, building frame type.

SOUND CONTROL BASICS

	IIC IMPACT SOUNDS	STC AIRBORNE SOUNDS
EXAMPLES	• Footsteps • Dropping/Falling Items • Chair Scrapes	• Television • Voices • Music
SOUND TRANSMISSION METHOD	Direct impact on a floor is transmitted through the building material and is radiated as sound.	Sound waves travel through the air and are transmitted through walls and floors.
HOW IT IS MEASURED	Impact sounds are measured using a tapping machine in which standard sized weights are dropped onto the floor in a constant rhythmic pattern. Sound levels in the room below are recorded at 16 frequency bands and calculated into one number identified as the IIC (Impact Insulation Class) Rating.	Airborne sounds are measured at 16 frequency bands through a floor/ceiling assembly. The resulting reduction in sound is calculated into a single rating identified as the STC (Sound Transmission Class) Rating.
MITIGATION FACTORS	ISOLATION BREAK — The basic principle behind impact noise reduction is decoupling: complete separation of building materials will reduce sound vibration transfer. The entangled mesh layer of an Acousti-Mat not only separates the mass timber floor panel and the underlayment, but also creates an air gap, improving the impact isolation performance even more.	MASS — Adding mass to a floor increases the amount of airborne sound that is blocked. Where the International Building Code requires encapsulation on the top of mass timber floors to meet fire requirements, a 1" gypsum topping is the minimum. Maxxon underlayment minimum thickness is dictated by sound mat requirements.
ADDITIONAL CONSIDERATIONS	CEILING CAVITY — Adding a dropped ceiling assembly below a mass timber panel provides an air space proven to further reduce impact sounds, similar to traditional wood-frame construction. Mass timber assemblies with exposed wood ceiling or with gypsum board directly screwed for encapsulation need thicker sound mats and topping slabs to achieve similar isolation performance.	FLANKING PATHS — Rigid connections across isolation breaks, exposed ducts between separate spaces, continuous curtain walls, exposed, continuous columns and beams, or doors with undercuts for ventilation are often potential flanking paths. Flanking path noise is typically observed as high frequency sound.

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