



## Information Sheet for Architects



### Which projects require, or could benefit from, an acoustical consultant?

- *Custom homes*, especially those with gyms, offices, home theaters, music rooms, or other special-purpose spaces
- *Home renovations*, including for multi-family houses and separate basement units
- *Multi-residential* developments, including townhomes and condominiums
- *Classrooms and lecture halls*
- *Offices, both open and private, boardrooms, and presentation halls*
- *Retail spaces, restaurants & clinics*
- *Performance and entertainment venues*
- *Developments near roads, railways, or industrial noise sources*

### Why is acoustics important?

- Acoustics is a fundamental aspect of how we experience a space, whether it is residential, commercial, institutional, or industrial. The acoustics of a space contributes to how comfortable, functional, and enjoyable it is.
- Several issues may arise on a project with inadequate acoustical design, including redesigns, extra costs and time, and client complaints.

### Several acoustical design standards and/or guidelines may apply to your project:

- Ontario Building Code
- LEED certification
- Tarion requirements
- ASHRAE guidelines
- Environmental regulations
- GCworkplace
- Special-purpose or client-specified

### Our Services

- Development of acoustical performance targets based on project type, applicable regulations, and functional requirements
- Review of design drawings and specifications to meet design criteria
- Evaluation of existing facilities for sound isolation, mechanical noise, interior acoustics, and/or environmental noise impacts
- Inspections during construction to minimize deficiencies
- Sound testing, including ASTC, AIIIC, NC, STI & RT60 tests
- Free initial consultations for every project



### Three Main Aspects of Architectural Acoustics Design

#### Sound Isolation

*Minimizing noise transfer between spaces, including in custom homes, multi-residential, and commercial developments.*

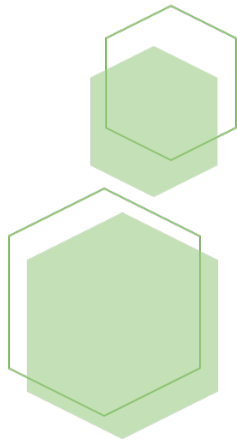
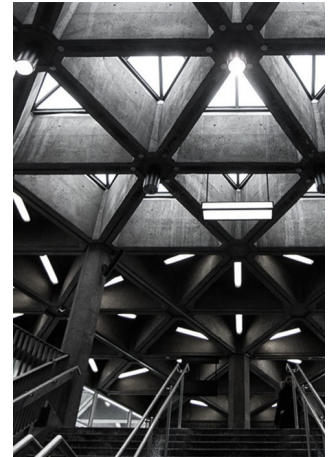
##### Examples of applicability:

- Between residential units
- Between special-purpose or amenities spaces and residences
- Between private offices or clinics
- From outside to inside

##### Design considerations:

- Composition of partitions
- Construction deficiencies
- Flanking paths, including at junctions and service penetrations
- Glazing and door selections

**Relevant acoustical parameters:** *STC, NIC, IIC, OITC, Rw*



#### Room Acoustics

*Designing for interior sound quality and comfort, including for speech intelligibility and music vibrance.*

##### Examples of applicability:

- Offices (private or open) and boardrooms
- Music rooms and home theaters
- Classrooms and lecture halls
- Performance venues

##### Design considerations:

- Room geometry and volume
- Surface finishes
- Location of occupants and sound source(s)
- Background noise

**Relevant acoustical parameters:** *NRC, SAA, RT60, STI, NC, RC*

#### Mechanical Noise Control

*Reducing noise and vibration transfer from mechanical and electrical equipment, including HVAC and plumbing noise.*

##### Examples of applicability:

- Airborne noise from HVAC and plumbing systems
- Structure-borne noise from equipment vibrations

##### Design considerations:

- Composition of partitions
- Duct silencers, acoustical louvers
- Vibration isolation mounts
- Duct and piping layout

**Relevant acoustical parameters:** *NC, RC, IL, SEL*

*KTD Acoustics offers free initial consultations for every project. Whether your project is a single family custom home, a commercial building with retail and office spaces, or an educational institution, we are happy to chat about how to make it a success – to deliver spaces that not only look beautiful, but sound exceptional.*