

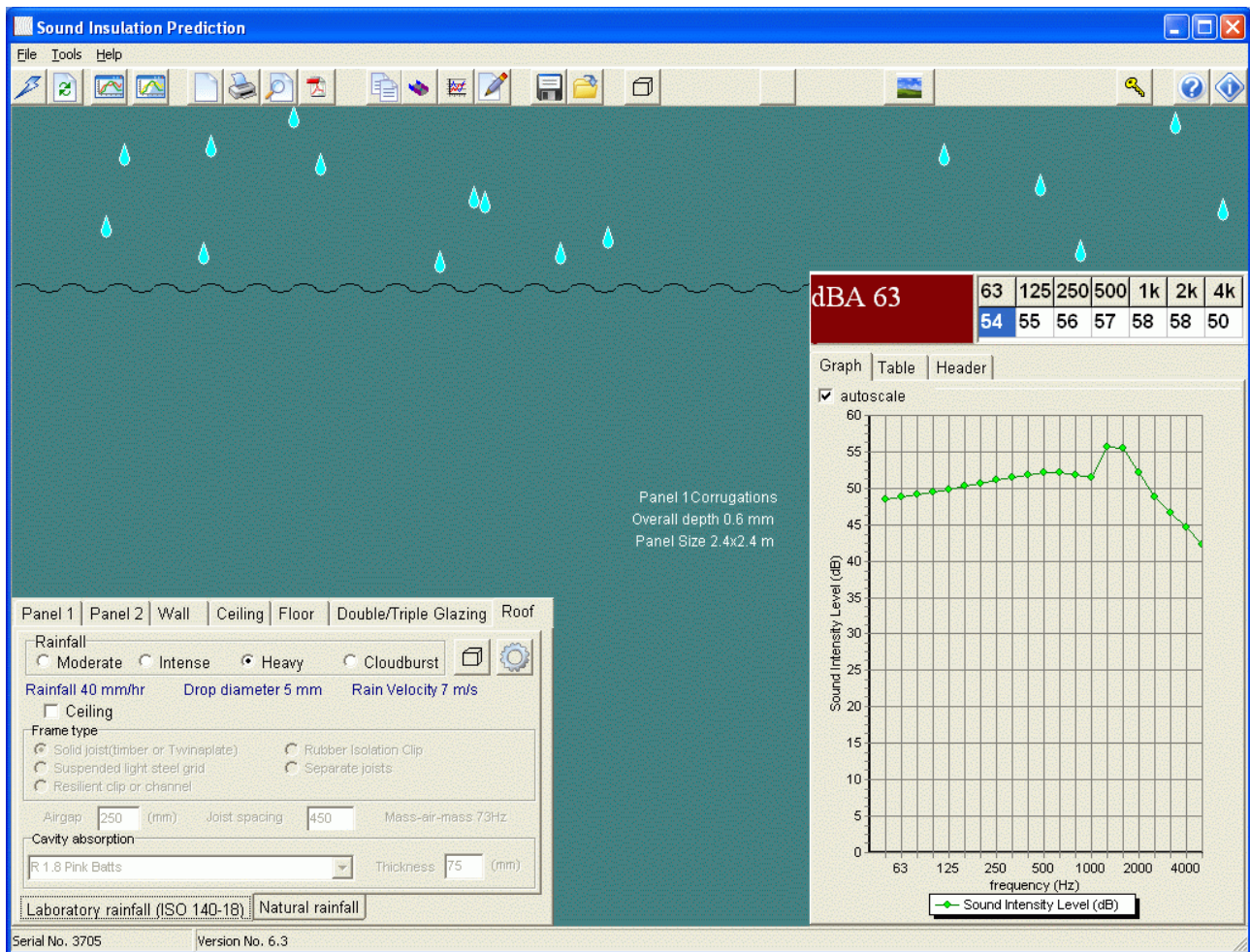
INSUL 6.3 NEW FEATURES

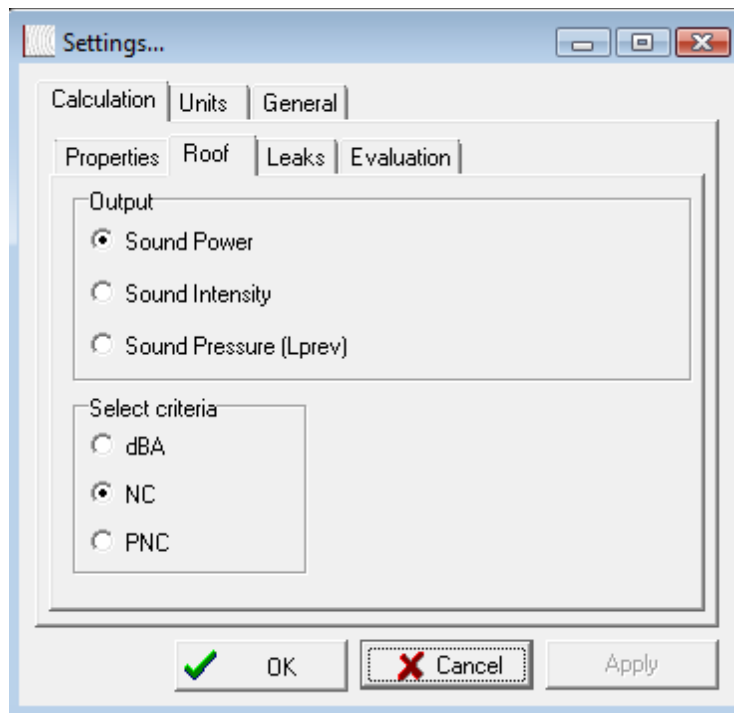
PREDICTION OF RAIN NOISE

INSUL can now perform predictions of rain noise according to ISO140-18: *Laboratory measurement of sound generated by rainfall on building elements*. INSUL can also perform predictions using a model for natural rainfall to simulate levels of rain noise under real conditions.

Features

- Rain noise prediction for light weight and heavy roof constructions
- Predictions for ISO 140-18 simulated rain or natural rainfall
- Predictions for corrugated and ribbed roof panels
- Predictions for single roof panels or roof panels with a ceiling beneath
- Predictions of sound pressure level, sound intensity level and sound power level, with results given in third octave bands, octave bands, dBA, NC and PNC



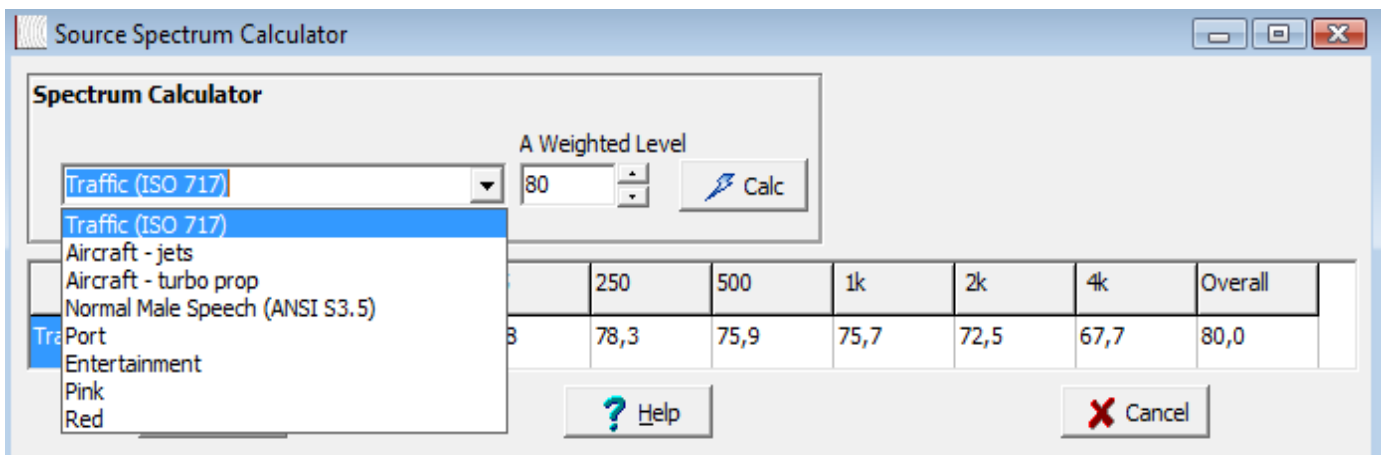
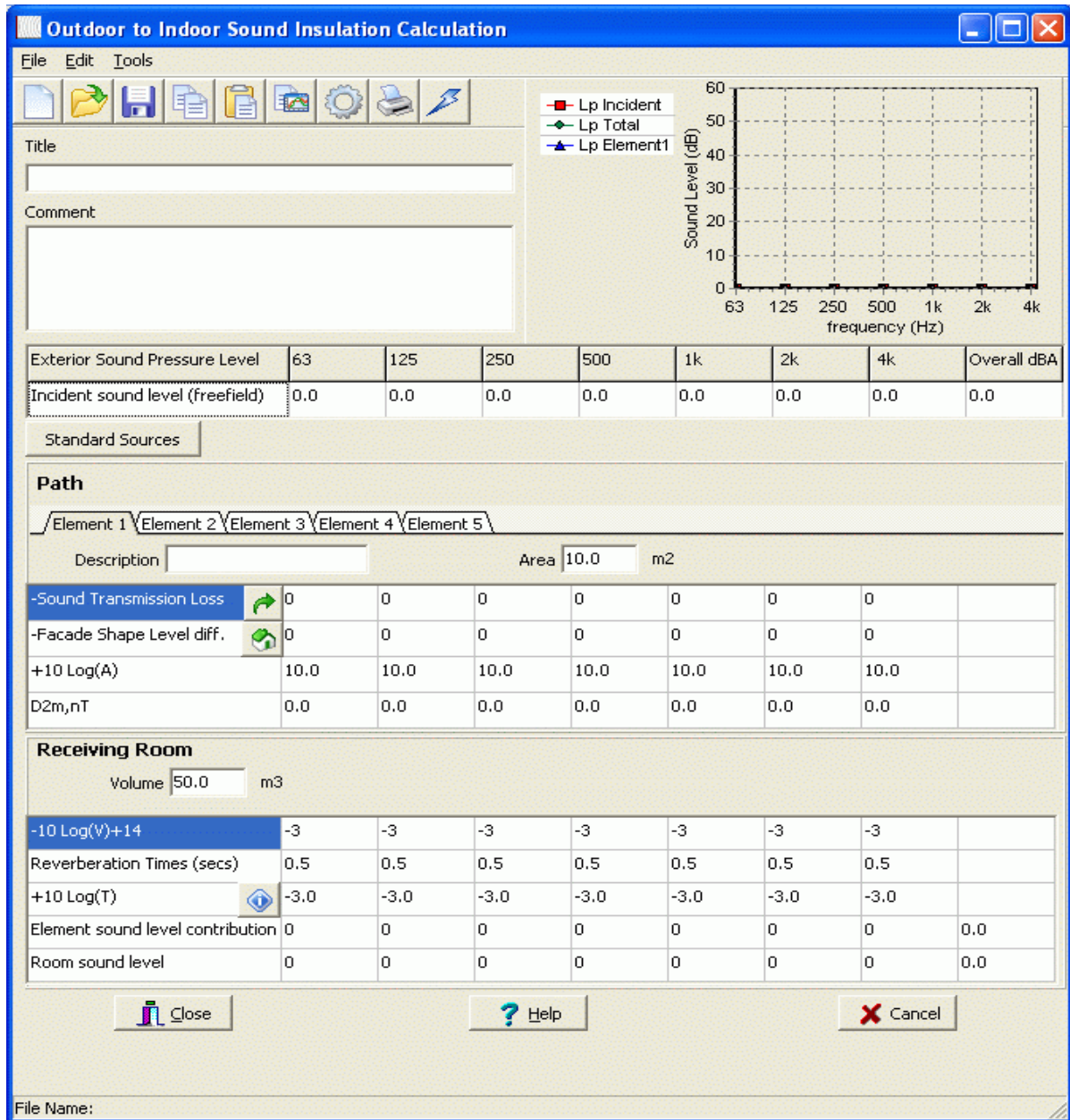


CALCULATION OF OUTDOOR TO INDOOR TRANSMISSION

INSUL can now calculate the noise level inside a room due to outdoor noise. It takes into account the sound transmission loss (STL) of the building façade, the size of the room and its acoustical characteristics. Calculations are based on EN 12354/3: *Estimation of acoustic performance in buildings from the performance of elements. Airborne sound insulation against outdoor sound*. Up to five different elements (e.g. door, wall, window, roof and floor) can be included. STL data can come from INSUL or be manually entered from other data.

Several standard outdoor noise spectra are available (e.g. traffic noise, aircraft noise, entertainment noise, voice). Contribution of each path is shown numerically and graphically for easy visual ranking of importance.

This feature should find wide use as protection against outdoor noise is increasingly being required, for instance around airports, motorways, ports and in inner city apartments or the optimization of high-rise buildings. INSUL can be used to design the optimum façade element to match the design requirements.



TRIPLE GLAZING

In many countries the desire to improve the thermal insulation of windows has encouraged the use of triple glazing. INSUL now includes a method of predicting the acoustical performance of such constructions.

