

Lockdown, Locks of hair and Room Absorption

For quite a while now, the lockdown has prevented people in most countries from going to the hairdresser - only recently has it become possible to get a haircut again, provided you can get an appointment...

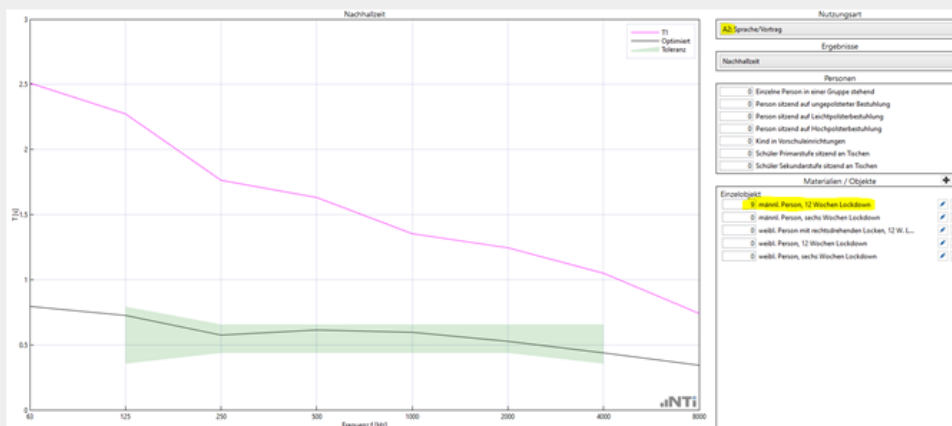
In the past few weeks, we noticed an improvement in speech intelligibility in our meeting rooms. It was noticed that an increase in STIPA values with an associated decrease in reverberation time depended on the presence of certain employees.



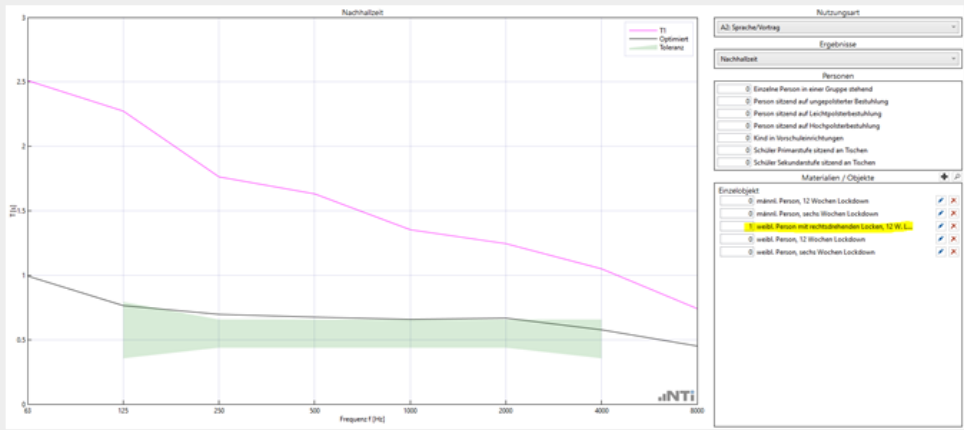
As a leading manufacturer of measurement technology for speech intelligibility and room acoustics, we wanted to get to the bottom of the matter. So we measured the acoustic properties of the colleagues in question several times in a reverberation chamber in accordance with the ISO 345 standard.

The results of our investigations clearly indicate that the relevant standards (e.g. DIN 18041, Table G.2 and ISO 3382-2) need to be revised with regard to the degree of hirsuteness: Additions to the example absorbers provided are urgently required and we will accordingly submit these to the relevant standards committees in a timely manner.

From the measurement results, the corresponding data for the equivalent sound absorption area of male colleagues after a twelve-week lockdown could be determined. The simulation calculation confirmed the original auditory perception: an acoustically non-optimised room (curve T1, blue) can be used for a meeting of nine colleagues (picture above) according to DIN 18041. After mathematical optimisation, the room then corresponds to usage type A2 (speech/meeting) of DIN 18041.



Surprising for all involved was the fact that even the presence of a single female person with clockwise curls in an otherwise empty room had almost the same acoustic effect. The theoretical background has not yet been clarified in detail. However, it is reasonable to assume that the curl resonance frequency in this individual case may be matching the wavelength of the circularly polarised sound waves exactly.



The absorption properties determined with the new measurement data have already been included in our Room Acoustics Reporter software:

Count	Description	Icon 1	Icon 2
1	male, 12 weeks lockdown		
1	male, 6 weeks lockdown		
1	female with clockwise curls, 12 weeks lockdown		
1	female, 12 weeks lockdown		
1	female, 6 weeks lockdown		

Read about the science behind this discovery [here](#).