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noise reduction in an operating room: a case study

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In our previous study reported in INTER-NOISE 2006 we found that operating rooms are among the most problematic areas in the healthcare industry. The maximum peak levels measured during various surgical procedures are extremely high - 100-120 dB, which can potentially lead to the hearing damage and interfere with the speech communication during surgery. Neurosurgery and orthopedic operating rooms are found to be among the noisiest overall. However, introduction of the acoustical materials to the operating room is very difficult due to the strict infectious control requirements. We report here a case study on using sound absorptive panels protected by DuPont Tyvek®, a unique flash spun plexifilamentary film-fibril sheet, combining excellent barrier properties with distinctive porous structure to make it acoustically transparent in the voice frequency range.