

The

EFNARC

NOZZLE OPERATOR CERTIFICATE

for shotcrete operators

Concrete spraying is a fundamental aspect of tunneling and underground mining operations, enabling quick entrance to the site under safe conditions. Appropriately trained and certified operators are of vital importance. A poor application technique not only generates unnecessary material waste through rebound and overspraying, but can also compromise the structural integrity of the site, and thus jeopardise safety.

achieving the
highest standards

EFNARC

EFNARC is a not for profit organisation founded in 1989 and comprises Company Members and Associate Members from Europe, Asia, Australasia and Latin America. It's current focus is underground construction technology, particularly in relation to sprayed concrete having launched the Nozzle Operator Certification Scheme in September 2009.

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HOW TO GET THE EFNARC NOZZLE OPERATOR CERTIFICATE

The Nozzle Operator certificate is obtained after attending and passing the course and handing in proof of minimum 40 days robotic spraying experience.

The course is **arranged by EFNARC certified examiners at numerous locations** around the world and **takes 5 days**, during consecutive days or on separate occasions. The **examiners are responsible for processing the certification** and making sure that eligible participants receive their EFNARC Nozzleman certificate.

THE COURSE

DAY
1

MODULE 1 - THEORY SESSION

The course includes classroom theory during a full day. The theory involves both basic and advanced theory.

DAY
2-4

MODULE 3 - TRAINING AND ASSESSMENT IN VIRTUAL REALITY (VR)

The course participants go through different scenarios on VR-simulators specifically developed for training and assessment.

DAY
5

MODULE 2 - THEORY EXAM

Each course participant individually completes a theory exam online which includes 30 multiple-choice questions.

MODULE 5 - PRACTICAL SESSION

Practical assessment with a real spraying robot. Operators who have handed in proof of experience will do this module directly on day 5 of the EFNARC Nozzle Operator course.



MODULE 4 - WORK EXPERIENCE

The course participant hands in a document showing minimum 40 days of spraying experience. The experience can be gained prior to or after the course, but only those with experience will go through the last day of the course and perform the assessment.

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information:

