

achieving the  
highest standards

**EFNARC**



## **SHOTCRETE BASICS AND PRACTICAL TRAINING**

A photograph of a tunnel construction site. A large yellow machine, likely a shotcrete gun, is positioned in the foreground, spraying concrete onto the tunnel walls. The scene is dimly lit, with bright lights from the machine illuminating the work area.

## **NOZZLEMAN - TRAINING WITH CERTIFICATE C2**

**The nozzleman is ultimately responsible for the quality of sprayed concrete. In the interest of the contractor, he operates and maintains the equipment and ensures safety at the workplace.**

**EFNARC has recognized the importance of trainings for nozzle men and has developed an internationally recognized certification system.**



The nozzleman certification system with recognised EFNARC examiners was introduced in 2009. In view of the rapid development of modern robotic application equipment and new concrete technology, the need for education and training has increased.

With the EFNARC Certificate C2, a standardized quality framework for training and assessment was created, combining theory and practice with Virtual Reality (VR) simulator technology.

**Training Content:**

	C2 Training				Practice
Module	1	2	3	4	5
Content	Theory	Theory exam	VR-Simulator Training	Practice	on the job
Duration	1 day	1 hour	3 days	1 day	>40 days

The course offered, is characterised by a balanced theoretical and practical part with the following key topics:

- concrete technology
- equipment
- shotcrete from the planner’s point of view
- application and spraying technology
- surfaces & curing
- standards & tests
- health and safety,environmental protection
- regional regulations
- VR simulator training
- practical applications and trainings



After successful participation in the nozzleman training, the passed exam and the practical proof, you can apply for your proof of qualification (EFNARC Certificate C2) with international recognition (ITA endorsed) at EFNARC. The cost of the EFNARC Certificate C2 is EUR 250.-

**Date:**

03 - 07 February 2020

08 - 12 June 2020

07 - 11 September 2020

09 - 13 November 2020

Individual course planning for groups possible. Please get in touch with us.

**Providers of this EFNARC course are:**

CAMPUS SURSEE (Swiss training centre for construction experts)  
und CUC (Centre for Geotechnics and Underground Construction)

**Educators:**

certified EFNARC examiners and instructors

**Course Fee:**

CHF 4'300.-, without lodging

CHF 4'800.-, with lodging

This course is entitled to Swiss Parifonds.

The costs include lunch, drinks during breaks and conference documents.

**Venue:**

Hagerbach Test Gallery Ltd.  
Polistrasse 1  
CH-8893 Flums Hochwiese

**Registration:**

In writing to [info@icguc.org](mailto:info@icguc.org),  
up to 4 weeks before the start of the course. Confirmation or cancellation  
is possible until 2 weeks before the start of the course.

The payment of the course fee will be made to CUC according to the details  
on the invoice and must be made before the start of the course.

**Cancellation:**

Cancellations by participants will only be accepted in written form and must  
be made at least 3 weeks before the start of the course, otherwise the  
course fee will be charged in full.

Hagerbach Test Gallery Ltd.  
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8893 Flums Hochwiese  
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