

ESSEEM PROJECT OUTPUT CONTENTS

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- 00.01 Introduction to the ESSEEM Project, page 1-8. This document is a general introduction to the ESSEEM project, background – participants – aims and more.
- 00.02 EFEE Requirements to shotfirer training, rock, page 1-11, adopted Rome October 2004
- 00.03 EFEE Requirements to shotfirer training, demolition, page 1-8 adopted Varna September 2006
- 00.04 European Qualification Framework [EQF], page 1-8. This document issued by EU supports the lifelong training with classification requirements in 8 levels. The detailed training requirements for the various levels will be found in the attached annexes to the document. The ESSEEM project output is classified in several modes. Symbols to help the students are “Fundamental knowledge” (must be learned), “Supplementary knowledge” (better to know). A student that successfully has passed the examination will be certified as qualified shotfirer level 4. His technical shot-firing competence surpasses the competence of shotfirers with standard European shotfiring training..

01 Minerals and Geology

- 01.01 Geology, page 1-42. This section will give the student basic understanding of factors that influence the response of the rock mass to drilling and blasting. While studying this section one will frequently be referred to subsections of minerals. To ease reading Minerals are listed in more detail below.
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01.07.03	Sedimentary rock, page 1-7
02. Drilling methods and commonly used machinery, page 1-108.	
This section gives the student a comprehensive introduction into modern machinery and equipment used in rock blasting. Drilling methods, pro and cons while selecting methods and machinery.	
03. Construction materials [important for demolition]	
The section discuss materials like masonry, concrete, steel, the drillability and blastability.	
04. Explosives and their main characteristics.	
The section aims at giving the shotfirer knowledge and understanding of the different characteristics of commonly used explosives. Aspects like sensitivity, handling procedures, energy and more are demonstrated on some 75 pages.	
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05. Initiation systems, page 1-165	
This section is a comprehensive introduction to the different initiation systems, the components and accessories, how to handle safely, system pros and cons, delay numbers, electrical resistance and more.	

06. Blasting theory, page 1-376.

The section is large and covers i.a. the detonation, the shock wave, the following reaction, examples illustrating accepted theories, nature of explosives, various test methods, chemical reactions, releasable energy, sensitivity, important parameters, pressure, critical diameter, wave propagation, rock constant, blastability, charge design, mass movements, flyrock and more. The section also includes a list of references, references and finally an index giving information to ease the finding of selected topics or graphs.

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