

Forensic ballistics

Abstract

This thesis deals with one of the disciplines falling under forensic science, forensic ballistics. Forensic ballistics is a forensic field focused on firearms, ammunition and other objects used in shooting incidents associated with committing a crime. The aim of this thesis is to provide a basic explanation of the term forensic ballistics, ballistics evidence and briefly describe the most important methods of ballistics examination. At the end is also mentioned the legislation of firearms and ammunition. The diploma is divided into five chapters. First chapter is focused on the history of forensic ballistics, one part of this chapter describes the history on the territory of the Czech Republic, the other part deals with worldwide history. This section is complemented by several case that have become significant milestones for forensic ballistics, such as the case of Charles Stielow from the US state of New York. The following chapter provides a definition of forensic ballistics, its purpose and divides ballistics into several parts. Forensic ballistics is composed of four basic areas internal, intermediate, external and terminal ballistics and two others dealing with phenomena occur before and after the actual shot prenatal and postterminal ballistics. In the other part of the chapter are described objects of forensic ballistics firearms, ammunition and items hit by the missile. The third chapter deals with the term ballistics marks, as one of the types belongs to marks found at a crime scene and they are distinguished into mechanical, technological, marks of destruction, material and data marks. The chapter also explains where the ballistics marks frequently occur, gunshot residue and its specifics. The last subchapter provides information about some ballistics image databases. The fourth chapter describes the most important section of forensic ballistics, a forensic firearms examination. In this field the experts study individual, class and subclass characteristics and based on these characteristics they attempt to link the bullets and cartridges to a particular weapon or to a specific model. In addition, the ballistics experts examine characteristics and function of firearms and ammunition and they try to determine a bullet's trajectory or shooter position. Last chapter focuses on a definition of the term weapon in criminal law and firearms and ammunition legislation in Czech Republic.

Keywords: forensic ballistics, firearms, ammunition

