References

1. Reiners P. Investigation about the Stab Resistance of Textile Structures, Methods for their Testing and Improvements. HAL: Université de Haute Alsace; 2016.
2. Fenne P. Protection against Knives and other Weapons. Scott RA, editor. Cambridge: Woodhead Publishing, CRC; 2005.
3. Alil L-C, Barbu C, Badea S, Ilie F. Aspects Regarding the Use of Polyethylene Fibers for Personal Armor. Eastern Michigan University, 2004.
4. Cavallaro PV. Soft Body Armor: An Overview of Materials, Manufacturing, Testing, and Ballistic Impact Dynamics. In: Division NUWC, editor.: NUWCD-NPT-TR.; 2011.
5. Laible R. Ballistic Materials and Penetration Mechanics (Methods and Phenomena, their applications in Science and Technology): Elsevier; 2012.
6. National Institute of Justice OoJP, U.S. Department of Justice. Stab Resistance of Personal Body Armor NIJ Standard–0115.00. Washington: US National Institute of Justice; 2000.
7. LaTourrette T. The Life-Saving Effectiveness of Body Armor for Police Officers. *Journal of Occupational and Environmental Hygiene* 2010; 7(10): 557-62. Epub 2010/07/17.
8. Peleg K, Rivkind A, Aharonson-Daniel L. Does Body Armor Protect from Firearm Injuries? *Journal of the American College of Surgeons* 2006; 202(4): 643-8. Epub 2006/03/31.
9. Jaslow CR. Mechanical Properties Pf Cranal Sutures. *Journal of Biomechanical* 1990; 23(4): 313-21.
10. Larsen B, Netto K, Skovli D, Vincs K, Vu S, Aisbett B. Body Armor, Performance, and Physiology During Repeated High-Intensity Work Tasks. *Military Medicine* 2012; 177(11): 1308-15. Epub 2012/12/04.
11. Greaves I. Military Medicine in Iraq and Afghanistan: A Comprehensive Review: Taylor & Francis Group, CRC Press; 2018.
12. Ricciardi R, Deuster PA, Talbot LA. Metabolic Demands of Body Armor on Physical Performance in Simulated Conditions. *Military Medicine* 2008; 173(9): 817.
13. Park H, Branson D, Petrova A, Peksoz S, Jacobson B, Warren A, et al. Impact of Ballistic Body Armour and Load Carriage on Walking Patterns and Perceived Comfort. *Ergonomics* 2013; 56(7): 1167-79. Epub 2013/05/10.
14. Chinevere TD, Cadarette BS, Goodman DA, Ely BR, Cheuvront SN, Sawka MN. Efficacy of Body Ventilation System for Reducing Strain in Warm and Hot Climates. *European Journal of Applied Physiology* 2008; 103(3): 307-14. Epub 2008/03/11.
15. Nayak R, Crouch I, Kanesalingam S, Ding J, Tan P, Lee B, et al. Body Armor for Stab and Spike Protection, Part 1: Scientific Literature Review. *Textile Research Journal* 2017; 88(7): 812-32.
16. Nayak R, Kanesalingam S, Wang L, Padhye R. Stab Resistance and Thermophysiological Comfort Properties of Boron Carbide Coated Aramid and Ballistic Nylon Fabrics. *The Journal of The Textile Institute* 2018; 110(8): 1159-68.
17. Matusiak M. Thermal Comfort Index as a Method of Assessing the Thermal Comfort of Textile Materials. *FIBRES & TEXTILES in Eastern Europe* 2010; 18, 2(79): 45-50.
18. Djongyang N, Tchinda R, Njomo D. Thermal comfort: A review paper. *Renewable and Sustainable Energy Reviews* 2010; 14(9): 2626-40.
19. Nayak R, Punj S, Chatterjee K, Behera BK. Comfort Properties of Suiting Fabrics. *Indian Journal of Fibre and Textile* 2009; 34: 122-8.
20. Philippe F, Schacher L, Adolphe DC, Dacremont C. Tactile Feeling: Sensory Analysis Applied to Textile Goods. *Textile Research Journal* 2004; 74(12): 1066-72.
21. Dempsey PC, Handcock PJ, Rehrer NJ. Impact of Police Body Armour and Equipment on Mobility. *Appl Ergon.* 2013; 44(6): 957-61. Epub 2013/05/15.

22. Legg SJ. Influence of Body Armour on Pulmonary Function. *Ergonomics* 1988; 31(3): 349-53. Epub 1988/03/01.
23. Li Y, Ortiz C, Boyce MC. Bioinspired, Mechanical, Deterministic Fractal Model for Hierarchical Suture Joints. *Physical Review E, Statistical, Nonlinear, and Soft Matter Physics* 2012; 85 (3 Pt 1): 031901. Epub 2012/05/17.
24. Pritchard J, Scott J, Girgis G. The Structure and Development of Cranial and Facial Sutures. *Journal of Anatomy* 1956; 90(1): 73-86.
25. Herring SW. Mechanical Influences on Suture Development and Patency. *Frontiers of Oral Biology* 2008; 12: 41-56. Epub 2008/04/09.
26. Dunlop JWC, Weinkamer R, Fratzl P. Artful Interfaces within Biological Materials. *Materials Today* 2011; 14(3): 70-8.
27. Vernerey FJ, Barthelat F. On the Mechanics of Fishscale Structures. *International Journal of Solids and Structures* 2010; 47(17): 2268-75.
28. Dastjerdi AK, Barthelat F. Teleost Fish Scales Amongst the Toughest Collagenous Materials. *J Mech Behav Biomed Mater*. 2015; 52: 95-107. Epub 2014/12/03.
29. Zhu D, Szewciw L, Vernerey F, Barthelat F. Puncture Resistance of The Scaled Skin from Striped Bass: Collective Mechanisms and Inspiration for New Flexible Armor Designs. *J Mech Behav Biomed Mater* 2013; 24: 30-40. Epub 2013/05/21.
30. Lin YS, Wei CT, Olevsky EA, Meyers MA. Mechanical Properties and the Laminate Structure of Arapaima Gigas Scales. *J Mech Behav Biomed Mater*. 2011; 4(7): 1145-56. Epub 2011/07/26.
31. Connors MJ, Ehrlich H, Hog M, Godeffroy C, Araya S, Kallai I, et al. Three-Dimensional Structure of the Shell Plate Assembly of the Chiton Tonicella Marmorea and Its Biomechanical Consequences. *Journal of Structural Biology* 2012; 177(2): 314-28. Epub 2012/01/18.
32. Ji B, Gao H. Mechanical Properties of Nanostructure of Biological Materials. Journal of the Mechanics and Physics of Solids 2004; 52(9).
33. Barthelat F, Tang H, Zavattieri D, Li C, Espinosa D. On the Mechanics of Mother-of-Pearl: A Key Feature In The Material Hierarchical Structure. *Journal of the Mechanics and Physics of Solids*.2007; 55(2): 306-37.
34. Krauss S, Monsonego-Ornan E, Zelzer E, Fratzl P, Shahar R. Mechanical Function of a Complex Three-Dimensional Suture Joining the Bony Elements in the Shell of the Red-Eared Slider Turtle. *Advanced Materials* 2009; 21(4): 407-12.
35. Garcia AP, Pugno N, Buehler MJ. Superductile, Wavy Silica Nanostructures Inspired by Diatom Algae. *Advanced Engineering Materials* 2011; 13(10): B405-B14.
36. Martini R, Balit Y, Barthelat F. A Comparative Study of Bio-Inspired Protective Scales Using 3D Printing and Mechanical Testing. *Acta Biomaterialia* 2017; 55: 360-72. Epub 2017/03/23.
37. Ahrendt D, Krzywinski S, Massot EJi, Krzywinski J. Hybrid Material Designs by the Example of Additive Manufacturing for Novel Customized Stab Protective Clothing. Light Weight Armour Group for Defense and Security; Roubaix, France2019. p. 286-94.
38. Markforged. Markforged the Mark Two Desktop 3D Printer. Germany: Markforged, Inc; 2019 [cited 2020 05 April]; Available from: https://markforged.com/mark-two/.
39. Langau L. What is Continuous Fiber Fabrication (CFF)? Make Parts Fast, A Design World Resource2017.
40. Dean A. A Review on Markforged Mark Two: the basics of how it works. DEVELOP3D. 2016.
41. 3D Printer Types & Technologies [database on the Internet]. Markforged. 2019. Available from: https://markforged.com/learn/3d-printer-types-technologies/.

42. Office of the Deutsche Hochschule der Polizei Polizeitechnisches Institut. Test Standard Stab and Impact Resistance. Requirements, classifications and test procedures. Deutchland: Vereinigung der Prüfstellen für angriffshemmende Materialien und Konstruktionen (VPAM); 2011.
43. Connor SEJ, Bleetman A, Duddy MJ. Safety Standards for Stab-Resistant Body Armour: A Computer Tomographic Assessment of Organ to Skin Distances. International Journal of the Care of the Injured 1998; 29(4): 297-9.
44. Su S, Wang W, Nadebaum D, Nicoll A, Sood S, Gorelik A, et al. Skin-Liver Distance and Interquartile Range-Median Ratio as Determinants of Interoperator Concordance in Acoustic Radiation Force Impulse Imaging. *Journal of Medical Ultrasound* 2019; 27(4): 4.
45. Shen F, Zheng R-D, Shi J-P, Mi Y-Q, Chen G-F, Hu X, et al. Impact of Skin Capsular Distance on the Performance of Controlled Attenuation Parameter in Patients with Chronic Liver Disease. *Liver International* 2015; 2015: 9. John Wiley & Sons Ltd.
46. Aalco. Weight calculator. England & Wales: Aalco metals limited; 2020; Available from: http://www.aalco.co.uk/online-tools/weight-calculator/.