Analysis of the cords show no visible damage of the cords processed with water jet. Using a laser system, the rubber catches fire during removal. This leads to blackened areas on the cords. Thus, the laser preparation leads to sooty particles on the steel cord surface. The experimental testing of the achievable adhesion of rubber on the processed steel cords shows that the cords using water jet as preparation process lead to the best results. Comparing the cords processed with water jet and the conventional method show that the total removal of the rubber on the cords reaches better adhesion. This effect is negative affected by the sooty particles, but needs further investigation if this problem can be solved by integrating an extra processing step to clean the cords. In terms of time, is the process using water jet more efficient than the laser system.
Thus, water jetting shows to be a promising preparation method for steel cord conveyor belt splicing and comes along with a great potential of automation. Further investigation are necessary to determine optimal process parameter for the removal of rubber from steel cords. This includes machine techniques, as for example different types or number of nozzles, and machine setup, as jet angle, beam distance or water pressure.

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