

- 15, 49005, ; e-mail: dep7@ukr.net
- 1520
- (), ()
- EN 15227. 36 /
- 80
- 64 . : 90 50 ; 123
- EN 15227
- 1520
- 0,25 , 64 – 0,95 , 0,3 50 –
- :
1. “ ” 2017 – 2021 . URL: http://www.uz.gov.ua/files/file/Strategy_Presentation_fin1.pdf (Last accessed: 15.09.2017).
 2. () “ ” 2021 2017 . URL: <http://eurotrain.railway-publish.com/assets/files/pdf/1.pdf> (Last accessed: 15.09.2017).
 3. 2016-2017. URL: <http://eurotrain.railway-publish.com/assets/files/pdf/5.pdf> (Last accessed: 15.09.2017).
 4. EN 15227. Railway applications – Crashworthiness requirements for railway vehicle bodies. Brussels, 2008. 37 p.
 5. Carl F.B., Schneider S., Wolter W. Development of the crashworthy locomotive platform TRAXX: Operational needs, technical concept and validation procedure. Passive Safety of Rail Vehicles and Safe Interiors. Proceedings of 5th International Symposium (17 – 18 March, 2005, Berlin). Berlin, 2005. P. 42–62.
 6. The EST crash buffer (EST). URL: <http://www.crashbuffer.com/index.htm> (Last accessed: 15.09.2017).
 7. Foedtke J., Schneider S., Pfrommer R., Zurheide H. Entwicklung der Kastenstruktur für die Lokomotive Voith Maxima 40C. Design of the carbody structure for the Voith Maxima 40CC locomotive. ZEVrail Glasers Annalen. 2008. 132. . 292–303.
 8. Prima II – . 2010. 12. . 17–25.
 9. Siemens. Locomotives – . URL: <http://eurotrain.railway-publish.com/assets/files/pdf/12.pdf> (Last accessed: 15.09.2017).
 10. . URL: http://resource.voith.com/vt/publications/downloads/1994_r_g1712_rus_2013-03.pdf (Last accessed: 15.09.2017).
 11. Jade E. Development process of a side bumper crash device. Passive Safety of Rail Vehicles. Innovation in passive safety and interior design. Proceedings of the 7th International Symposium (20–21 November 2008, Berlin). Berlin, 2008. P. 71–80.
 12. Wasilewski L. Evolution of crash absorbing systems according to EN 15227 and according to real operation conditions. Passive Safety 2013 – Passive Safety of Rail Vehicles and Safe Interiors. Proceedings of the 9th International Symposium (21–22 February 2013, Berlin). Berlin, 2013. P. 211–218.

