











## 5 Conclusion

It is clear from Fig.7 that, with increasing slenderness, the values of analytically and by programme computed resistances approach the Euler hyperbola, and the problem becomes a stability problem. In case of elastic resistance, the values from computational model  $M_{R,Ansys}$  fully agree with the analytical  $M_R$ . When comparing the values of standard resistance  $M_{b,Rd}$  with total computed  $M_{pl,Ansys}$ , there is obtained good agreement approximately from  $\bar{\lambda}_{LT} \geq 0.7$ . For the lower non-dimensional slenderness, the standard resistance is by 2 – 6 % higher. The empirical total resistance  $M_{pl,R}$  according to (7) gives the values lower than  $M_{b,Rd}$  and  $M_{pl,Ansys}$ , and thus, it is rather safe assessment of total resistance based on the elastic resistance  $M_R$ .

Although it is well known that the influence of residual stress decreases the resistance of hot-rolled struts under compressions [15], it was not considered in the present problem. It remains, however, the topic of future studies.

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