

# Aluminium VS. Steel

## Aluminium

## Steel

Weight	2,7 g/cm <sup>3</sup> only one third of the weight of steel easy to install (because of the lightweight)	7,87 g/cm <sup>3</sup> (structural steel ST360C) very heavy heavy installing devices are necessary
Support / running wheel	less wear of the running wheel system	heavy loading because of high weight
Motorization	less loading of the motorization and the gearing elements exact setting of safety torsional moment possible	heavy loading of motorization and gearing elements stronger motorization necessary high weight - causes high development of the torsional moment and centrifugal force no exact setting of the safety torsional moment possible
Corrosion	natural protection because of oxide layer (in combination with atmospheric oxygen)	rust formation and very strong corrosion in case of environmental influences
Surface	smooth and clean	because of galvanizing very rough, irregular, wavy and sometimes unsightly
Constructive deformation	no significant thermo treatment to increase the corrosion protection essential	big deformation of the whole work piece because of the thermo treatment (up to 600 °C) during galvanizing
Color coating	smooth and clean color coating surface, guarantees very high surface quality	rough, irregular and wavy surface causes no good surface quality formation of pores, because of zinc emission
Architecture	ergonomic and architectonical top quality surface huge variation of designs possible (using float profiles)	difficult production of complicated profiles most of the time only straight and functional usage
Environment	almost 100 % recyclable (can be melted)	big losses because of corrosion and contamination

