

Basic technologies of conveying and lifting systems and machines. Structure, technologies and calculation of wire ropes and cables. Horizontal and inclined conveyor belts (modeling of operation, transient phenomena, design and calculation). Ancillary equipment and supporting structures for conveyor belts and conveyor systems in general. Angle of repose / surcharge and modeling of the behavior of granular materials in industrial conveying systems. Calculation of transient (dynamic) phenomena and selection of motors / speed reducers. Roller conveying systems and cableways. Pretensioning systems and their calculation. Pneumatic conveying systems. Modelling and design of positive or negative (vacuum) pressure systems including selection and design of fans/ blowers, bag-filters, cyclone dust collectors, silos, air-gliders, feeders and other ancillary equipment. Conveyor screws (horizontal – inclined – vertical) and their calculation – design. Bagging machines. Basic technologies of lifting machines and systems. Calculation and design for lifts and escalators. Lifting platforms and mechanisms. Safety regulations and handling of loads. Traction and lifting winches. Design of cranes and gantry cranes. Chain bucket elevators.