

# Components

## Rolling Stock

**SIEMENS**

*Ingenuity for life*

Category	Components
<b>Carbody / Raw Material</b>	Sheets, profiles made of aluminum, steel or stainless steel including mechanical treatment
	Assemblies and components made of aluminum, steel and stainless steel
	Couplers, articulations draw hook, buffer
	Gangways
<b>Interior (Head)</b>	Floor assembly
	Windows and Glazing: Windscreen, side windows
	Illumination: Exterior lighting equipment, interior lighting equipment, marker lights, lighting, headlights
	a) Complete driver's desks (electrical and mechanical)
	b) individual driver's desk components as electric control panels, paneling parts
	Base frame (in close coordination with the respective systems as PIS, automatic train control, etc.)
<b>Interior (Vehicle)</b>	Fiber glass for front mask: GRP vehicle frontend including wall paneling and including mechanical driver's desk (PT)
	Ceiling
	Luggage racks, handrails, waste bins, shelves and partition walls
	Galleys
	Interior paneling: Side and front walls, vestibules
	Floor assembly
	Seats
	Windows and Glazing: Windscreen, side windows
<b>Bogies</b>	Illumination: Exterior lighting equipment, interior lighting equipment, marker lights, lighting, headlights
	Air spring system, rubber-metal parts within bogie, steel springs, shock absorber, push-pull rod in the bogie
	Steel / aluminum, cast parts, forged bogie frame parts, sheet steel parts, precision steel pipes for bogies, mechanical
	Pre-assembly bogies, mechanical treatment of bogie frame parts including welding
	Wheel sets, wheels axle, axle boxes for bogies
<b>Traction Electric</b>	Brake calipers, brake disks, brake pads, magnetic track brake, eddy current brake, earthing contacts
	Auxiliaries supply battery charger, batteries and battery systems, standalone auxiliary converter or power supply block
	Pantograph, insulators, roof disconnectors, surge arrester, roof penetration main switch, voltage converter and current transfer > 1kV, contractors > 1kV, system recognition, earthing disconnector
	Main transformer, reactors (for series resonant circuit, line-filter); auxiliary converter - transformer and frame (e.g. HTG in case) of the same supplier
	Power converter E including auxiliaries supply
	Power converter DE including integrated auxiliaries supply, TCU
	Traction including traction motor
	Cooling for energy and traction unit, cooling system - tower E - locomotive
	Fan for traction motor, ventilation for auxiliaries supply and machinery compartment
	Brake resistors

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<b>Diesel &amp; Cooling Systems</b>	Diesel engine, generator, waste gas system, combustion air supply, pre-heating / holding, fuel tank
	Diesel engine cooling system (including fan drive, piping, additional cooling functions)
<b>Electrical Systems</b>	Cables on Bulk
	Cable Assemblies
	High & Low Voltage Electrical Cabinets
<b>Brake</b>	Brake systems for bogies: Brake calipers, brake disks, brake pads, magnetic track brake, eddy current brake, earthing
	Contacts
	Brake systems for carbody: Brake management, electric control / driver's brake, pneumatic control, microphone panel, pantograph panel, sanding
	Pneumatic Brake: Air supply aggregates, air supply unit, compressed air reservoir
<b>Automation Systems &amp; Information Technology</b>	Vehicle Control Systems
	Train radio, signaling, registration, indication, data transfer equipment, communication systems, additional equipment
	Fire detectors, fire extinguishers, smoke detectors
	Mass transit / ATO & Recorder
	Passenger Information System & Infotainment
<b>HVAC</b>	Air Conditioning (intake, ventilation, treatment for air conditioning, distribution, control)
<b>SAM</b>	Sanitary modules
<b>Doors</b>	External doors, machinery compartment doors, vestibules, steps (not inside), folding steps / sliding steps, entrances for the disabled
<b>Technical Services</b>	Temp. Labor
	Software-Development (Project/Customer)
	Engineering Services
	Design and Mock Up
	Documentation, Translation
	Training and Consulting (Project/Customer)
<b>B&amp;C</b>	Metal Parts according to drawing
	Electrical Connecting Parts
	Mechanical Connecting Parts
	Installation Equipment
	Chemicals