

True blue

2022 Version 5120PEV1C 12M luxury electronic travel coach

(Dedicate design for Africa road transport system)



Monocoque frame/chassis structure , 400 hp battery ,32000cal Air condition LED light , luxury seat (2022Version)

Model No.: 5120PEV1C luxury travel coach (Dedicate rear diesel Engine with Max loading Capacity of 45-55 person)

Overall Specification	Length(mm) 总长	120000	Power motor Specification	Power motor model 电动机型号	TZ460XSE02 double stage, big torque electronic motor for Large slope Road
	Width(mm) 总宽	2500		Manufacture standard 整车生产标准	CNAS standard for electric bus include all the spare parts
	Height(mm) 总高	3400		Type of Power motor 电动机型式	4200NM Double motor drive 4200Nm 电机驱动
	Wheel base(mm) 轴距	6000		Motor rated power /Speed/torque 电机额定功率/转速/转矩 (kW/r/min)	MotorA 电机: 180KW/3000 rpm /1400Nm
	Tread F/R(mm) 轮距	2053/1830		Peak power of motor/Speed/Torque 电机峰值功率/转速/转矩 (kW/r/min)	Motor B 电机 B 200KW/3600 rpm /4200Nm
	Overhang F/R(mm) 前悬/后悬	2600/3400		Fuel Type 燃油总类	纯电动 Pure electric
	Approach/Departure (°) 接近角/离去角	12/11			
	Passenger load /seat 载客人数/座位数	45-55 person			
底盘厂家 Chassis Manufacture	Monocoque	最高车速 Max. Speed(km/h)	≤100		

Brake distance(m) (v=30km/h) 制动距离	≤10	最大爬坡度 Max. Grade Ability (%)	≥20
Power drive system position 动力装置位置	驱动电机后置 Electrical drive motor rear mounted	最小转弯直径 Min. Turning Diameter (m)	≤24
Max Total Mass(kg) 最大总质量	12000	Curb Weight(Kg) 整车整备质量	10300
最小离地间隙（在满载情况下） Minimum ground clearance (under full load)	>180mm		
Power drive system 驱动系统	<p>精进 TZ460XSE02 由 1400Nm 电机加 2100Nm 电机组成 TM5058 double motor drive system made by 3600Nm and 4200Nm power double motor 直流母线电压 600Vdc bus DC voltage 600Vdc 电机扭矩: 3600Nm 连续功率 / 峰值功率 : 135/400kW Continuous power / peak power: 180 / 200kW · Continuous torque / peak torque: 750 / 3600Nm 额定转速 / 最高转速 : 850/3600pm 直流母线 / 电池电压 : 550Vdc Rated speed / maximum speed: 1750 / 3000pm DC bus / battery voltage: 550Vdc 冷却方式 : 水冷 (50%乙二醇水溶液) 冷却电池工作时发热, 保证电池在 15 到 50 度恒温, 延长电池寿命 Cooling method: water-cooled (50% ethylene glycol solution)Cooling the battery when working Extending the life of battery by ensuring it work in constant temperature from 15 to 50 degree. Rated speed / maximum speed: 1750 / 3000pm DC bus / battery voltage: 600Vdc 电机控制系统高速计算, 合理分配各个电机输出转矩 reasonable distribute motor output torque by high-speed calculation of Electric motor control system Dual motor release large torque which easy to deal with climbing or continuous large slope 强大的外特性, 宽广的高效区, 充沛的回收制动</p>		

	<p>Strong external characteristics, broad and efficient area, plenty of recovery brake 在高坡度、变工况运行条件下，更快速、更节能 In the high gradient, variable working conditions, it could work more faster and more energy efficient 适用于复杂山路 Suitable for complex mountain road condition</p>
<p>电机控制器 Motor controller</p>	<p>电机控制器 主电机控制器 KTZ57X41SE02 Double Controller Main Motor KTZ54X41SA x 2</p>
<p>气路供气系统</p>	<p>直联便携式空气压缩机（电驱）</p>
<p>高压漏电检测</p>	<p>脉冲检测器， 高压柜集成</p>
<p>储能器类型 Types of energy storage</p>	<p>动力电池 Power battery</p>
<p>Battery & electric capacity 储能单元</p>	<p>400KWH 磷酸铁锂电池 车顶/车尾安装 额定电压 531.3V， 底盘中部 4 组， 行李仓 4 组。慢充 8 小时电池从 15%SOC 到 100%SOC。电池规格 6D 1010*630*240mm， 4 组 中置 6D 1010*630*240mm， 4 组 后置 磷酸铁锂电池， ATL1600， 能量密度 GL 150-165 Wh/kg) 280KWH lithium iron phosphate roof /rear mounted , 4 Set install on roof, 4 set install on Luggage room rated voltage 550V, 8 hours slow charging battery from 15% SOC to 100% SOC. The size of the battery is 6C 1060*630*240mm , 4 Set top mounted 6D 880*6630*240mm , 4 Set rear mounted Lithium iron phosphate ,ATL 1600 , energy density GL 150- 165 Wh/kg)</p>
<p>助力转向系统 power steering system</p>	<p>双源方向机助力电动油泵 Double source steering gear booster oil pump</p>

Rear axle 后桥	13 吨免维护后桥 , 盘式制动器 19.5。双级加强主减精磨齿盘式制动器 19.5 英寸,采用制动气室,带 ABS 13Tone Maintenance-free rear axle, disc brakes Two-stage strengthen main reduction with fine grinding teeth, disc brakes 19.5 inches with ABS sensor	
Front axle 前桥	7.5 吨免维护前桥 , 盘式制动器 19.5 英寸, 带 ABS 传感器 7.5Tone Maintenance-free gantry rear axle, disc brakes 22.5 inches with ABS sensor	
间隙调整臂 Gap adjustment arm	盘式制动自带蹄片间隙自调功能 Disc brake with self-adjusting gap adjustment function	
车架总成 Frame assembly	全承载焊接车架, 全承载车身必须通过 CAE (有限元分析), 满足 CNAS 整车安全和强度测试标准。同时整车骨架采用电泳工艺, 镀层厚度 25-30um, 满足气候条件下路况之 CNAS 防腐标准。适用于尼泊尔环境温度在-5 到 50 摄氏度之间、海拔高度在 3000 米以下的崎岖、丘陵、陡坡/急转弯道路条件下的作业。 Monocoque reinforce frame by welding made of special steel . Monocoque frame design must be in accordance with CAE analysis & meet the standard of safe and strength test under CNAS standard By electrophoresis of whole body , the thickness of the coating is 25- 30um to meet CNAS standard for the vehicle use inn climate and road condition Suitable to operate even in the rough, hilly road with steep slope/ sharp bends road condition of Nepal at ambient temperature varying between -5 to 50 degree centigrade and altitude range up to 3000 m.	
传动轴 Drive axle	单节, 管状, 双万向节 Single, tubular, double universal joints	
Suspension 悬架系统	空气悬架系统, 带 ECAS, 前横向稳定杆, 双向作用筒式减振器 Air suspension system with ECAS, front stabilizer bar, two-way acting cylinder shock absorber	
Steering System 转向系统	右舵, 动力转向器, 可调转向装置 (组合开关带回位和自锁功能,), 4 幅Φ480 (真皮+仿桃木方向盘), 电动油泵, 油泵电机控制器 :4 合一内置式 RHD ,power steering, adjustable steering (combination switch with back and self-locking function), 4 *Φ480 (leather + imitation peach steering wheel)Electric oil pump, oil pump motor controller: 4 in 1	

		built-in	
Brake System 制动系统		<p>双回路气制动系统和前后盘式车轮制动器, 储能弹簧式驻车制动器,主管路为内外镀锌无缝钢管(过渡部分采用高强度合金管), ABS 系统,气制动阀件均采用开关式直踏式制动总泵、继动阀、快放阀、空干器、开关式手控阀均带消音器装置), 储气筒安装带电加热自动排污阀, 储气筒和制动气室均安装测试接头, 车辆前部安装续气接头(方便车辆拖移),</p> <p>Dual-circuit gas brake system ,front and rear disc wheel brakes, energy storage spring-type parking brake, the main pipe for the internal and external use galvanized seamless steel pipe (transition part of the High strength alloy tube), ABS system, gas brake valve parts are used R switch-type direct-on-type master cylinder, relay valve, quick release valve, air dryers, switch-type manual control valve with muffler device, gas storage tank installed automatic electric heating drain valve, Brake chamber are installed test connector, the front of the vehicle to install the following connector (easy for dragging)</p>	
冷却系统 Cool system		<p>ATS 恒温系统, 水泵采用电子磁力水泵</p> <p>ATS Thermostat system. The water pump uses the electronic magnetic force water pump</p>	
加速系统 Accelerate system		<p>电子油门</p> <p>Electric accelerator</p>	
Tire & Wheel 轮胎及轮毂		<p>9RR22.5-无内胎子午线轮胎。备胎一个</p> <p>9RR22.5 tubeless radial tire, 1 spare tire.</p>	
Electric System 电路系统		<p>24V</p> <p>24V</p>	
Battery/Generator 蓄电池/发电机		<p>6-Q-135 Ah 2 只免维护电瓶/150A DC/DC</p> <p>2PC X 6-Q-195Ah Maintenance-free batteries / 150A DC / DC</p>	
车身结构 structure of frame		<p>全承载车体结构。结构设计必需通过 CAE 分析, 满足 ECE/CNAS 之强度, 安全, 防腐标准。车身蒙皮前用镀锌板, 防腐镀层 20-35um, 前后围覆盖件.采用复合碳纤维, 在减轻车身重量情况下满足 ECE/CCC 之满足 ECE/CNAS 之强度, 安全, 防腐标准满足尼泊尔气候条件下路况之 CNAS 防腐标准。适用于尼泊尔环境温度在-5 到 50 摄氏度之间、海拔高度在 3000 米以下的崎岖、丘陵、陡坡/急转弯道路条</p>	

	件下的作业。 <i>Frame use monocoque structure and high strength steel. Second step. The design must pass CAE analysis, body cover use 25-30um zinc coating metal as well as carbon fiber cover to meet the request of light, safe and anti-corrosion according to ECE/CANS standard . Suitable to operate even in the rough, hilly road with steep slope/ sharp bends road condition of Nepal at ambient temperature varying between -5 to 50 degree centigrade and altitude range up to 3000 m.</i>	
Door and pump 门和门泵	前中铝合金内摆门双门，车内，车外设置应急开关，驾驶室设置乘客门应急总开关 <i>Double Door with front swing door made of aluminum alloy. Emergency switches are installed inside and outside the car, and passenger door emergency switches are installed in the cab</i>	
Window 窗户	车身玻璃封闭式设计，前后全粘接风挡，玻中玻式侧窗；2个手动安全天窗.驾驶室窗户为双向推拉粘接玻璃，前全粘接夹胶风档。后全粘接钢化玻璃 Close design of Body glass, Full adhesive Front and Rear Windshield, Glass-in-Glass type side window (glide glass window), 2pcs roof security window 。 The windows of the cab are two-way push-pull bonded glass, and the front is fully bonded with laminated windshield. Rear fully bonded tempered glass	
External Rear view mirrors 外后视镜	内视镜，兔耳式整体手动倒车镜；可视倒车系统 7 寸屏含车门监控 Rear view mirror, Rabbit ear type manual reversing mirror, 7-inch Visual reversing system including security camera	
Interior Trimming 内饰	高档公交内饰，碳纤维复合铝合金表面风道，发泡前、中、后顶，LED 贯通顶灯，前后分段控制，顶板采用打孔铝塑板，铝合金司机全包围 Luxury Bus interior, composite material air-duct, foaming front & rear top interior, through type LED ceiling light, Perforated aluminum plastic top plate, Aluminum drivers cab	
Floor 地板	三级踏步，彩粒石英砂地板 Three Step Non-slip Quartz sand floor	
Seats	豪华可调司机椅，33 高靠乘客软座，驾驶员座气压减震，三方位可调软座	

	座位	passenger seats; 33 semi-soft seats; Driver's seat with pneumatic cushioning, soft, adjust in 3 directions	
	Air condition 空调系统	天气控制顶置电动空调 (36000kcal/h) Weather control Top mounted electronic air conditioner (36000 kcal/h)	
	Heating System 暖风系统	PTC 电除霜、4 只车内电散热器 High Voltage Electric Defrost 4 car electric radiators	
	Handrail and Rings 扶手、吊环	铝合金扶手, 吊环, 整车扶手带软套 Aluminum Alloy Armrest, lifting ring, whole car armrest with soft sleeve	
	CAN 总线 CAN bus line	整车电路采用 CAN 总线仪表, 2 个标准模块, 3 只电压式气压传感器, CAN bus instruments with 2 standard modules, 3 voltage-type pressure sensors,	
	视听系统 Audio & Visual System	自动报站器, 6 个 5 寸车内喇叭 10W Automatic Bus stop reporting system, 6 pcs 5 inch loudspeaker	
知	Lighting 灯具	组合前大灯, 后尾灯, 门灯 Combined head light, taillight, 4pc independent LED top light, door light	
	安全设施 Safe Facility	2 个 4 公斤灭火器, 5 把报警安全锤, 发动机仓自动灭火器 3 只, 车顶电池舱新能源灭火系统 2 套。 2pcs 4kgs Carbon Dioxide Fire extinguishers, 5pcs safe hammer, 5pcs engine compartment automatic fire extinguishers, 2 set roof battery fire extinguishing system	
	其他 Other	1. GPS 行车记录仪, 带 4 路摄像头 GPS position & driving recorder with 4 cameras 2. 新能源烟雾报警系统 New Energy smoke alarm system 3. 电瓶舱、电池舱温度报警系统 temperature alarm system 4. 电子钟 Electronic clock 5. 按键式电子换挡器 Push-button type electronic gear shifter 6. 1 个电气工具箱 Tooling Box x 1pc 7. LED 电子路牌 LED Display board 8. 三角警示牌 Waring Triangle 9. 垃圾桶 trash can	

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**Reference spray-painting design of 6120YLGK1Z with LED light
(Yellow @45) (黄@45度) (base on 2019version)**



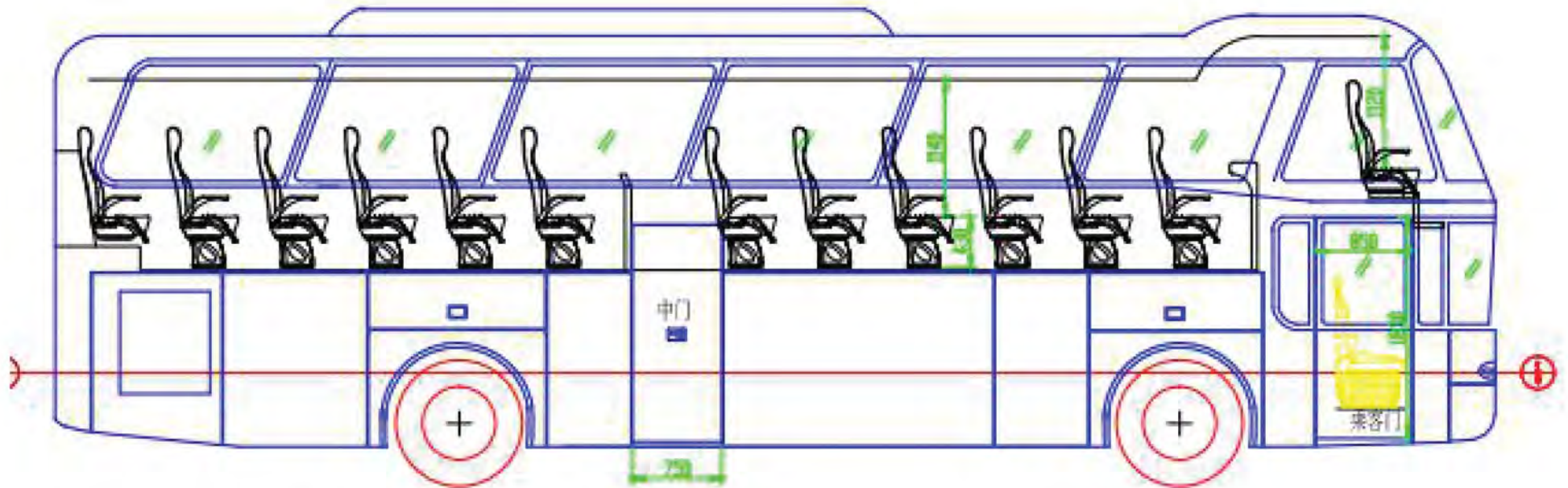
Reference spray-painting design of 6120YLGK1Z
(Yellow @45°) (白@45度) (base on 2018 version)



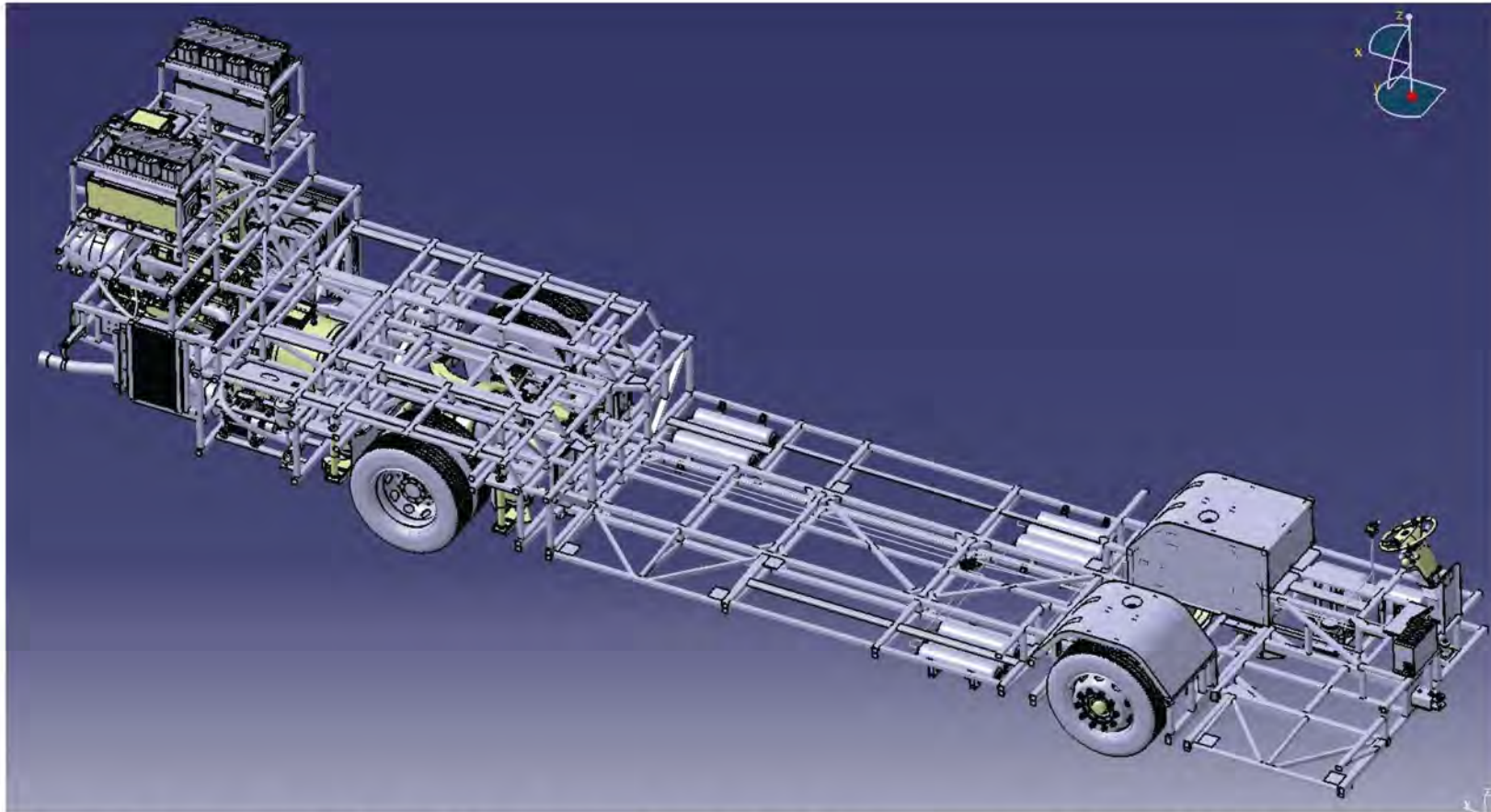
Reference spray-painting design of 6120YLGK1Z
(White @45) (白@45度) (base on 2018version)



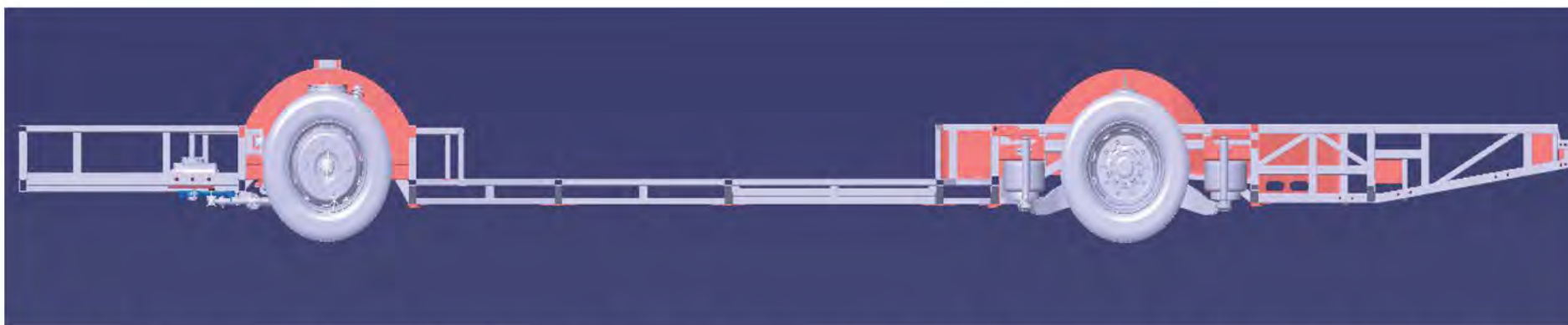
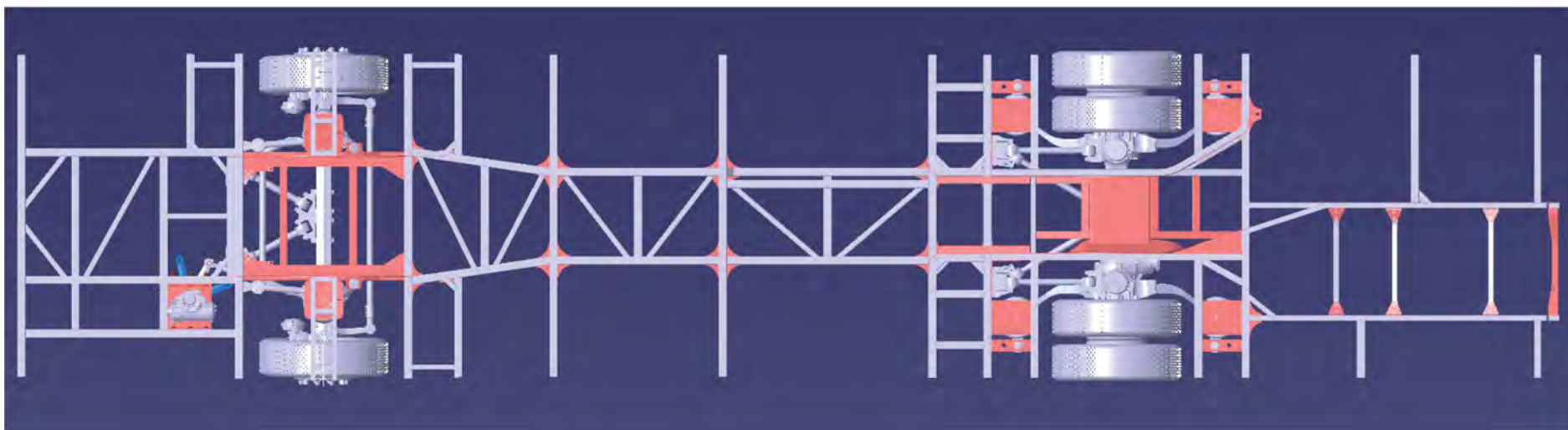
- Part C.2 整车尺寸



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- C.2.1 遵循欧盟 ECE 技术标准和 CNAS 技术标准设计。按尼泊尔气候条件设计工作范围为-10 度到 60 度，
- Design in accordance with latest ECE technical standard & CNAS standard. work temperature rang from-10 °C to 60 °C

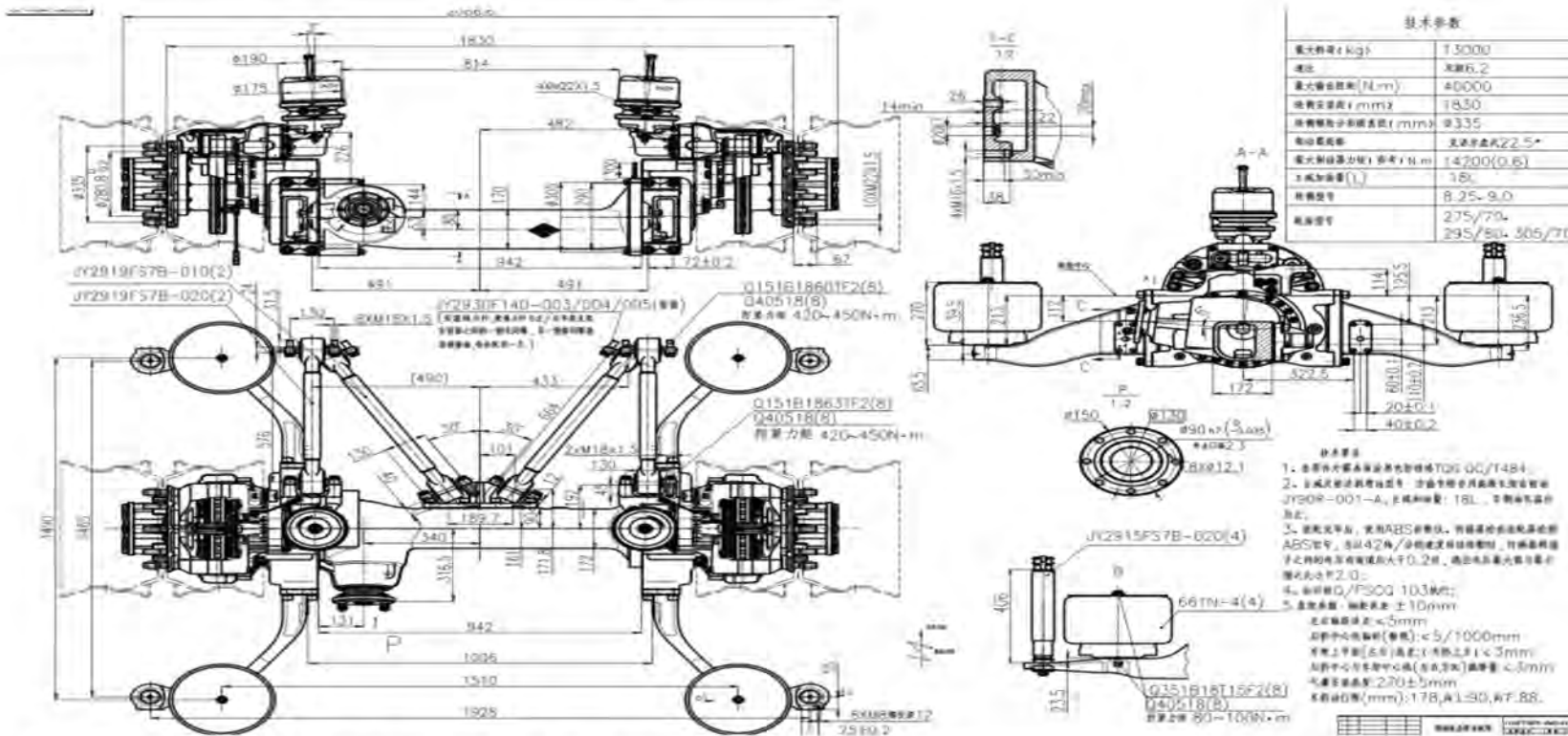


- C2.2 底盘全承载车身结构，前桥 4.2，后桥 8 吨，离地间隙（满载）不低于 200mm。空气悬架系统带 ECAS 系统。前横向稳定杆，双向作用筒式减振器
- The chassis fully bears the body structure, the front axle is 4.2, the rear axle is 8 tons, and the ground clearance (full load) is not less than 200mm. Air suspension system with ECAS system. Front transverse stabilizer bar, two-way acting barrel shock absorber



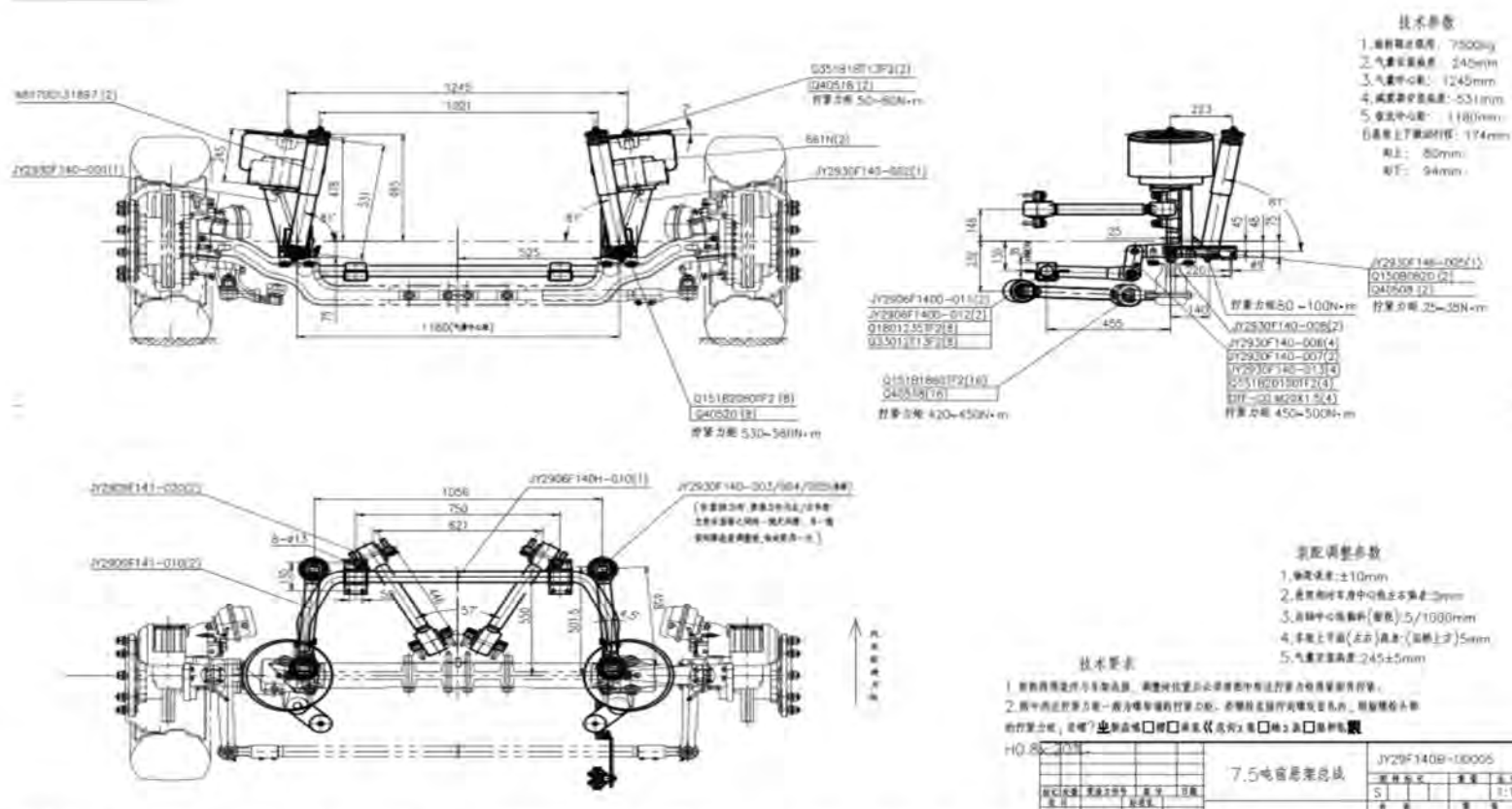
- C2.3 底盘构造俯视图和侧视图示意。底盘采用高强度合金钢，焊接。针对尼泊尔路况，工艺设置加厚管，并做整车电泳工艺。底盘所有部件进行电泳防腐处理，涂层厚度保护时限不少于 15 年。遵循 ECE/TS16949 标准。零部件适用标准 CNAS 标准

- Chassis structure of house and side view. The chassis is made of high-strength alloy steel and welded. In view of the road conditions in Nepal, the process is set up with thickened tubes and the whole vehicle electrophoresis process. All components of the chassis are treated with anti-corrosion electrophoresis, and the protection time of the coating thickness is not less than 15 years
- Follow ECE/TS16949 standard. Applicable standard of parts CNAS standard



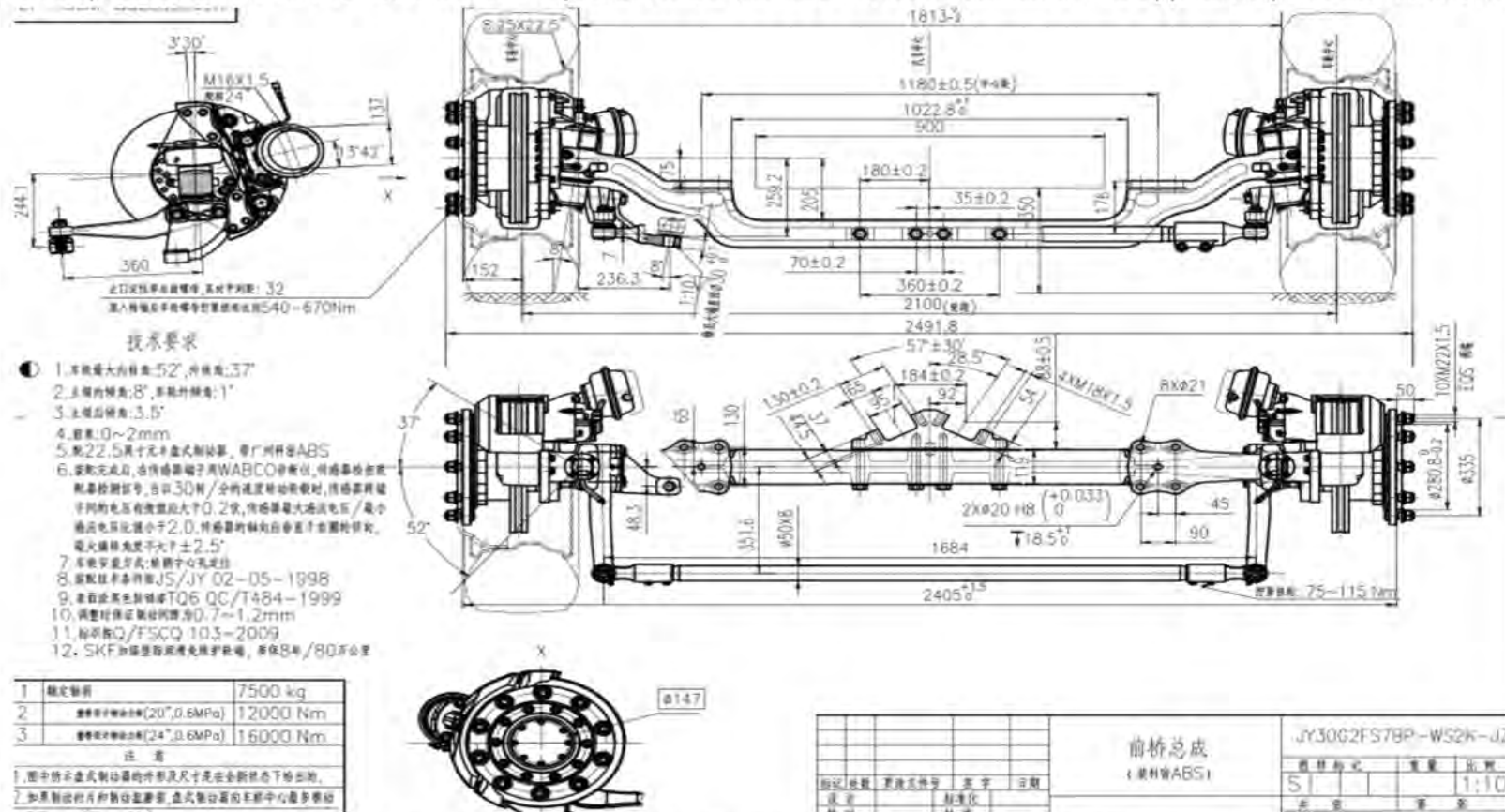
- C.2.3.1-a 后桥载荷不小于8T，不配气囊。离地间隙不小于200mm，三极踏步设计遵循 ECE/TS16949 标准。零部件适用标准 CNAS
- The rear axle load is not less than 8T, without airbag. Ground clearance is not less than 200mm, three-pole step design Follow ECE/TS16949

standard. Applicable standard CNAS

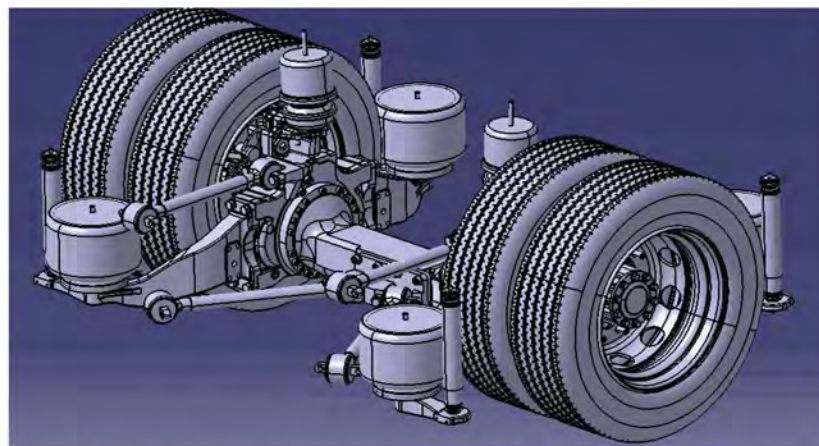
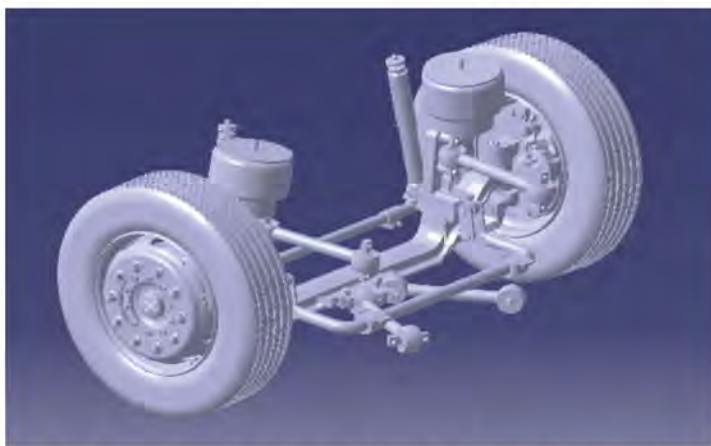
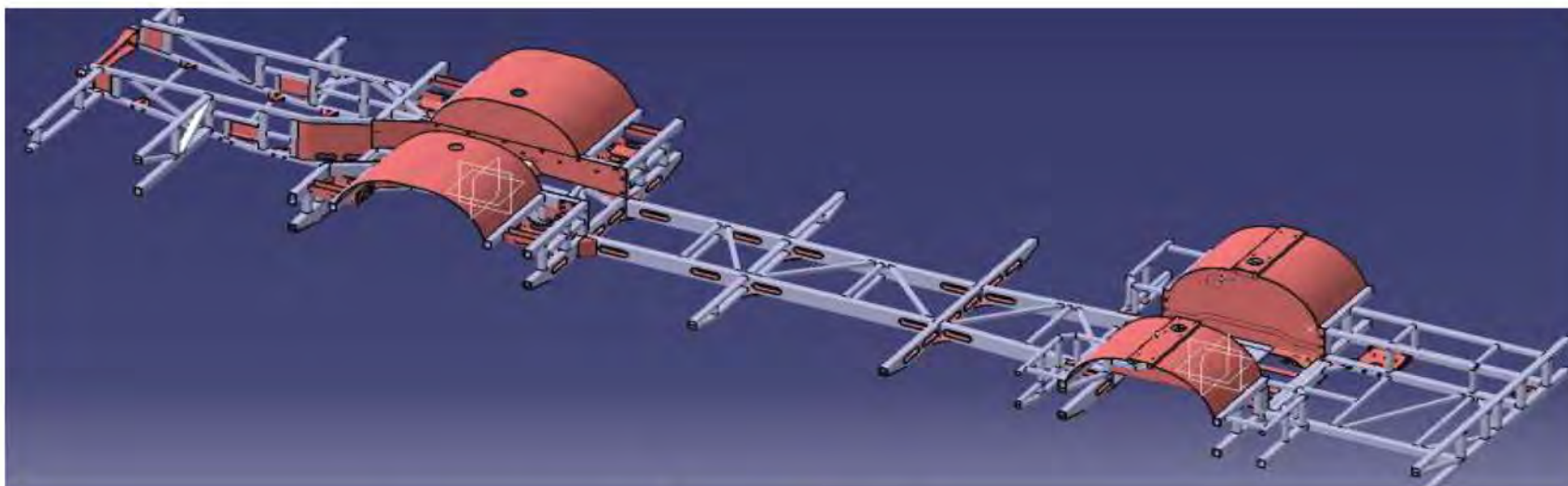


- C.2.3.2-a 前桥载荷不小于 4.5T，不配气囊,三级踏步设计 所有部件进行电泳防腐处理,涂层厚度保护时限不少于 15 年遵循 ECE/TS16949 标准. 零部件适用标准 CNAS
- The front axle load is not less than 4.5T, without airbag, three-step design. All components are electrophoretic anti-corrosion treatment, and the

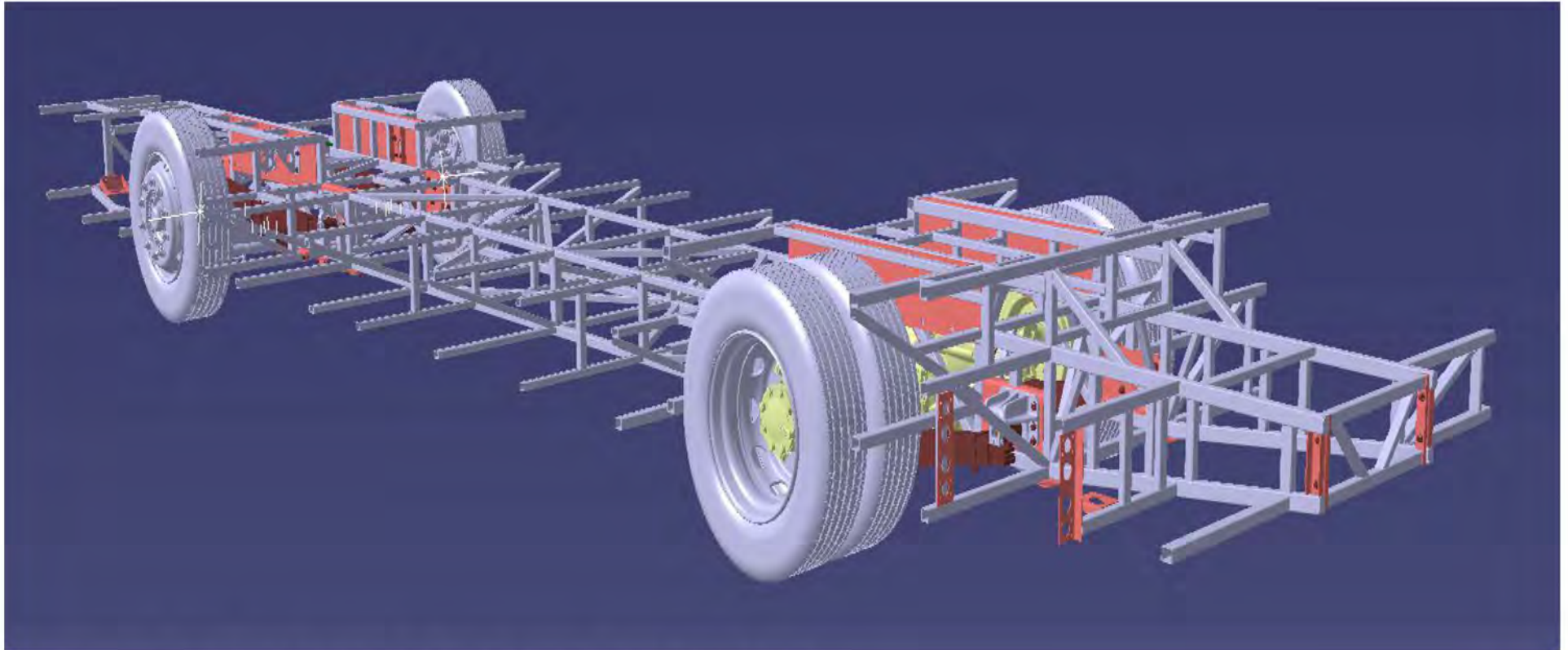
coating thickness protection time limit is not less than 15 years. Follow the ECE/TS16949 standard. The applicable parts standard CNAS



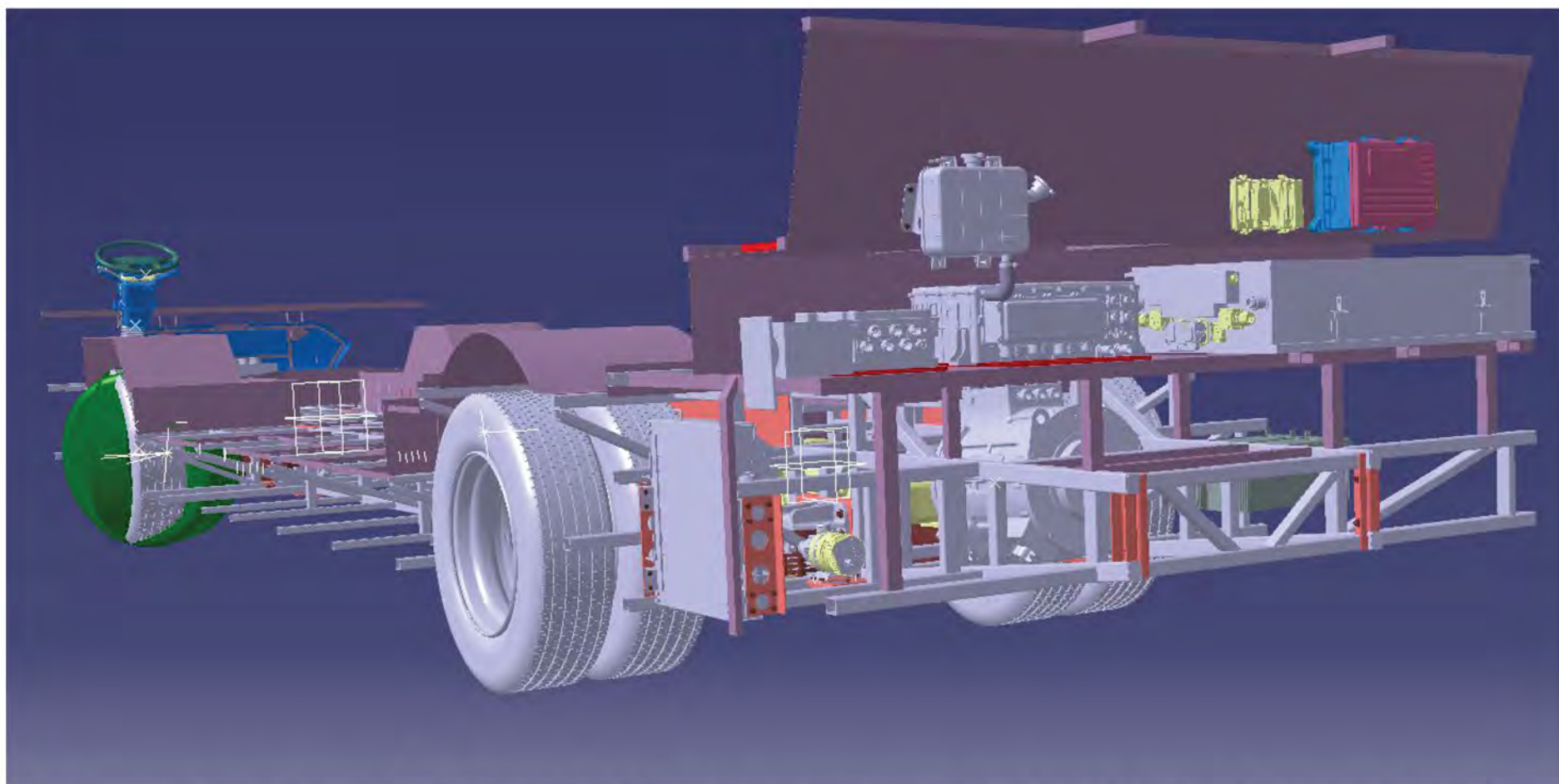
- C.2.3.2-C 前桥载荷不小于是 4.2T , 不配气囊, 二级踏步设计 所有部件进行电泳防腐处理, 涂层厚度保护时限不少于 15 年. 遵循 ECE/TS16949 标准. 零部件适用标准 CNAS
- The front axle load is not less than 4.2T, without airbag, two-step design. All components are electrophoretic anti-corrosion treatment, the coating thickness protection time limit is not less than 15 years. Follow the ECE/TS16949 standard. The applicable parts standard CNAS



- C.2.3.3 前后桥及底盘，ECAS 系统示意图（公交车不含 ECAS） Front and rear axles and chassis, schematic diagram of ECAS system (the bus does not include ECAS)

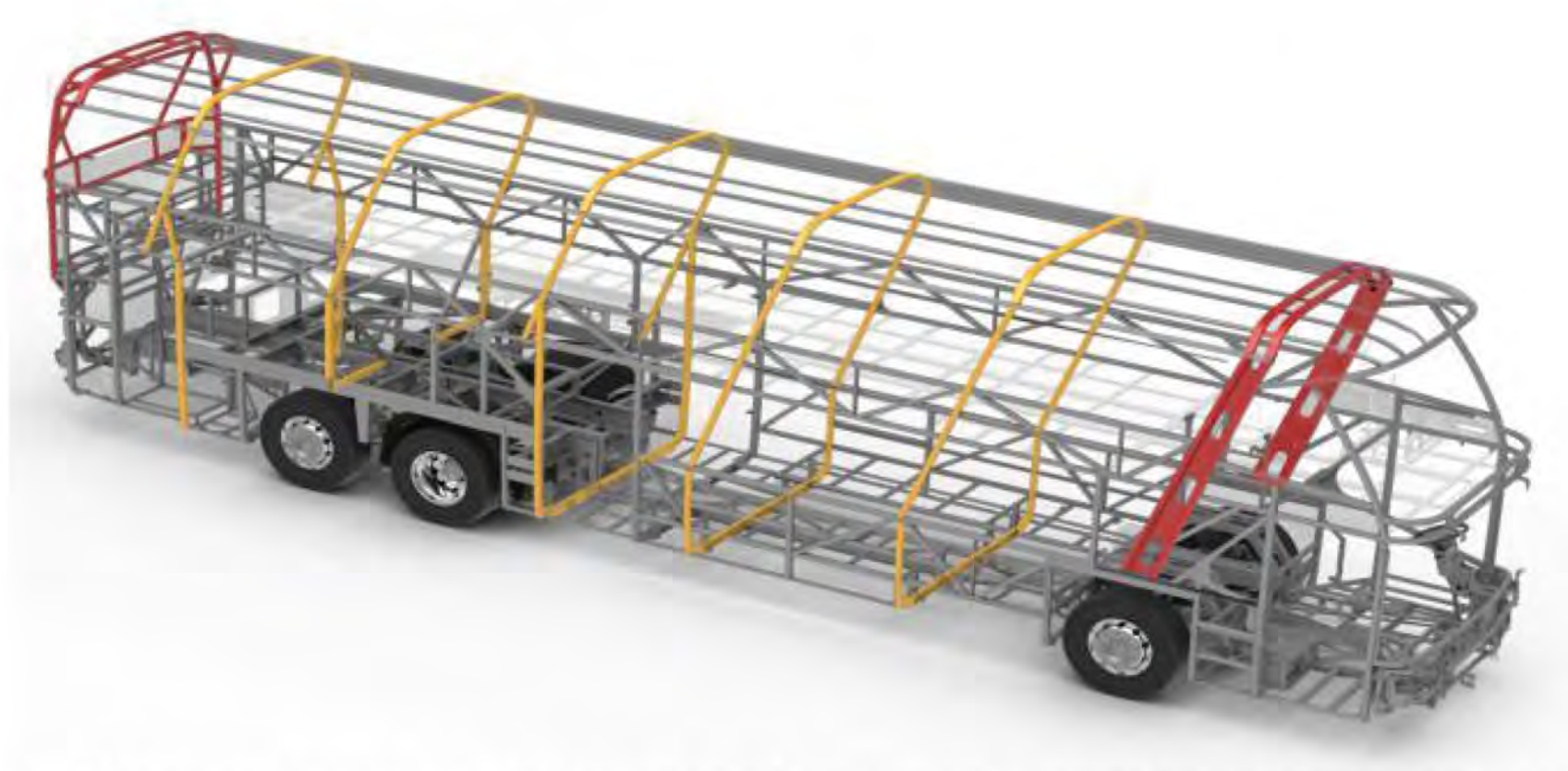


- C.2.3.4- 轮胎 9R22.5. 遵循 ECE/TS16949 标准. 零部件适用标准 CNAS
- Tire 9R22.5. Follow ECE/TS16949 standard. Applicable standard CNAS



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- C.2.3.5- 电池,电机,电控 布置。储能系统电量不小于 255KW. Li-Ion Battery 电池。遵循 ECE/TS16949 标准. 零部件适用标准 ECE R85 IEC61000, IP54, 电池须符合 CNAS 标准
- Battery, motor, electric control arrangement. The energy of the energy storage system is not less than 250KW. Li-Ion Battery..Follow ECE/TS16949

standard. Applicable standards for components ECE R85 IEC61000, IP54, battery must comply with CNAS standard



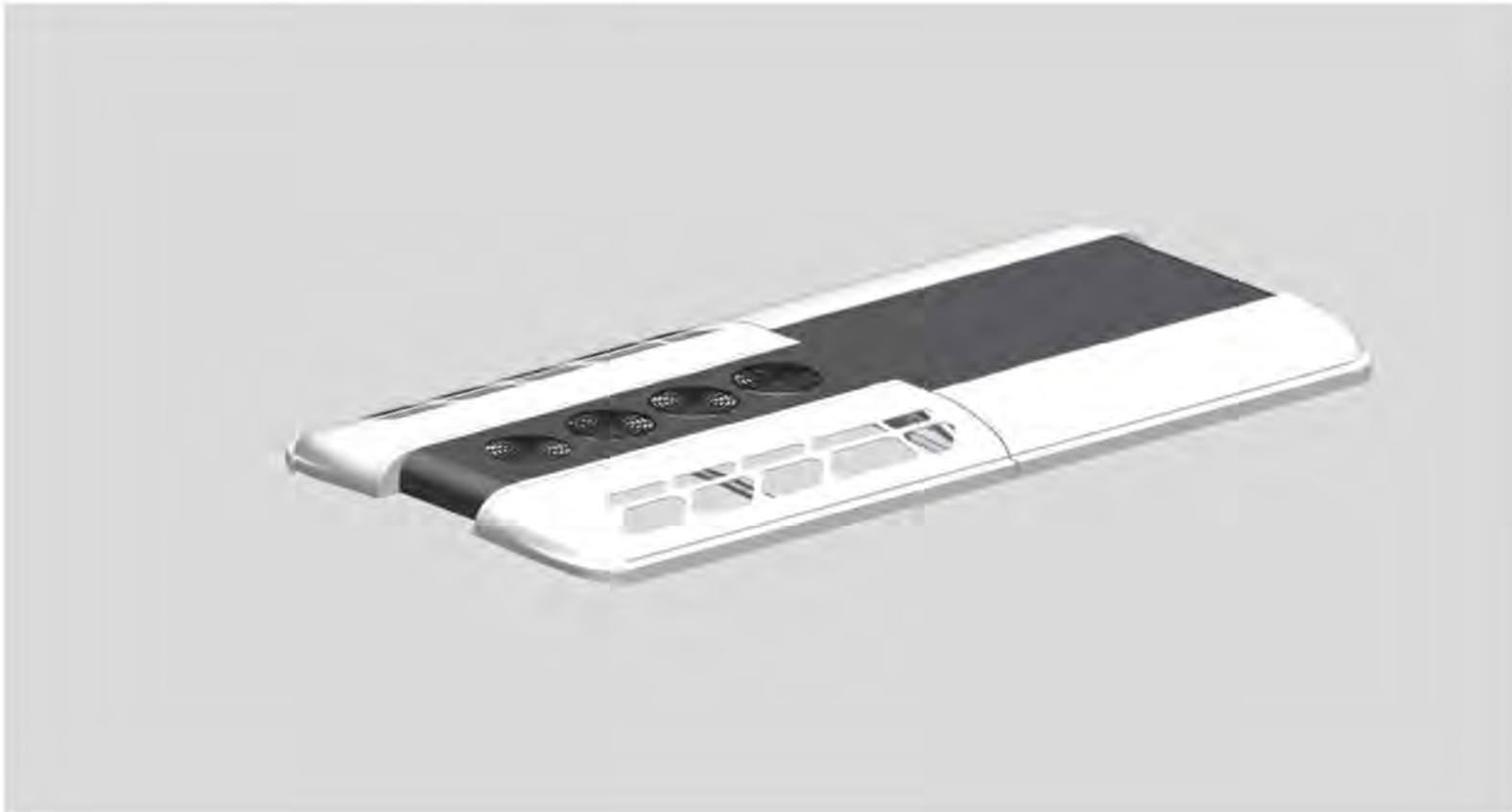
- C.2.3.6-a- 车身内部构造尺寸（左，上）。所有部件进行电泳防腐处理,涂层厚度保护时限不少于 15 年遵循 ECE/TS16949 标准. 零部件适用标准 CNAS
- The internal structural dimensions of the body (left, top). All components are subjected to electrophoretic anti-corrosion treatment, and the coating

thickness protection time limit is not less than 15 years. Follow the ECE/TS16949 standard. The applicable standard of parts is CNAS

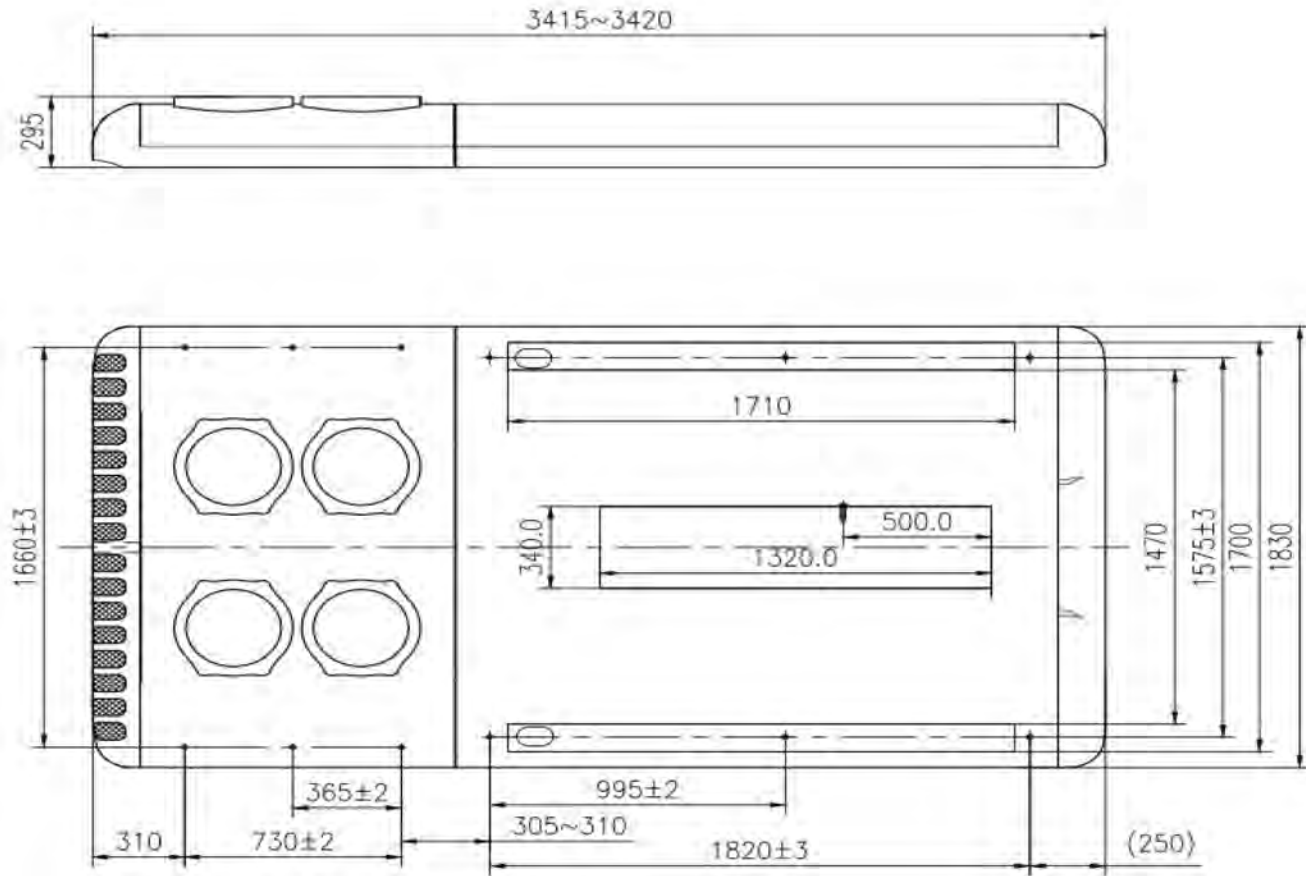


- C.2.3.6-b- Internal structural dimensions of the body (left). All components are treated with anti-corrosion electrophoresis, and the protection time of coating thickness is not less than 15 years
- Follow ECE/TS16949 standard. Applicable standard CNAS
- C.2.3.6-c- Internal structural dimensions of the body (right). All components are treated with anti-corrosion electrophoresis, and the protection time of coating thickness is not less than 15 years
- The interior of the car body is covered with heat insulation, sound insulation and fireproof materials.
- The ceiling is made of aluminum alloy.
- The door adopts aluminum alloy automatic door.
- Follow ECE/TS16949 standard. Applicable standard of parts CNASS standard

- C.2.3.6-d Assembly diagram of body + chassis. All components are treated with anti-corrosion electrophoresis, and the protection time limit of coating thickness is not less than 15
- Follow ECE/TS16949 standard. Applicable standard CNAS



- C.2.3.7-b 空调 24000CAL, 电池驱动 遵循 ECE/TS16949 标准. 零部件适用标准 CNAS
- Air conditioner 24000CAL, battery driven Follow ECE/TS16949 standard. Applicable standard for parts CNAS



- C.2.3.7-c 空调尺寸示意图遵循 ECE/TS16949 标准. 零部件适用标准 CNAS
- The size diagram of the air conditioner complies with the ECE/TS16949 standard. The applicable standard of parts is CNAS



- C.2.3.7-d 空调安装示意图遵循 ECE/TS16949 标准. 零部件适用标准 CNAS
- The air-conditioning installation diagram follows the ECE/TS16949 standard. The applicable standard of parts is CNAS
- C.2.4.1-a 宽大的驾驶室采用半封闭为驾驶员提供舒适的空间,仪表盘内置“车载计算机”集成所有控制系统并显示车况情信(含车速,实时耗电量,电量,温度,ECAS 车控制)。所有界面设置为英语/土耳其语。由 CAN 总线系统集中管理设置。车内 DVD 和监控系统输出由车载视频系统输出。前,后,中门设置监控探头和自动开/闭门控制按钮。遵循 ECE/TS16949 标准. 零部件适用标准 CNAS
- The large cab is semi-enclosed to provide a comfortable space for the driver. The instrument panel has a built-in "onboard computer" to integrate all control systems and display vehicle status information (including vehicle speed, real-time power consumption, power, temperature, ECAS car control). All interfaces are set to English/Turkish. Centralized management setting by CAN bus system. The output of the DVD and the monitoring system in the car is output by the car video system. Before and after, the middle door sets the monitoring probe and the automatic opening/closing control button. Follow ECE/TS16949 standard. Applicable standard CNAS



C.2.4.1-b 驾驶定布置示意图



C.2.4.1-C 仪表台实时工作实况 Real-time working status of instrument panel



C2.4.2-1 前中门区域内饰含铝合金天花板，彩粒石英砂地板，坐椅，LED 灯具，不锈钢扶手，防紫外线玻璃，车窗。遵循 ECE/TS16949 标准。零部件适用标准 CNAS

The interior of the front and middle door area includes aluminum alloy ceiling, colorful grain quartz sand floor, seat, LED lamp, stainless steel handrail, UV protection glass, and car window. Follow ECE/TS16949 standard. Applicable standard CNAS

C2.4.2 -2 中后门区域内饰含铝合金天花板，彩粒石英砂地板，座椅，LED灯具，不锈钢扶手，防紫外线玻璃，车窗。紧急停止按钮遵循 ECE/TS16949 标准。零部件适用标准 CNAS

The interior of the middle and rear door area contains aluminum alloy ceiling, colorful grain quartz sand floor, seats, LED lamps, stainless steel handrails, UV protection glass, and car windows.

C2.4.2 -3 座椅布局图乘客座椅为 PVC+软靠垫 中门布置轮椅自动车装置，中门区域设置业孕妇，残疾人专用座椅。LED 内饰灯条，19 寸电视，遵循 ECE/TS16949 标准。零部件适用标准 零部件适用标准 CNAS

Seat layout drawing The passenger seat is PVC + soft cushion. The middle door is equipped with a wheelchair automatic car device, the middle door area is set for pregnant women, and the special seat for the disabled. LED interior light bar, 19 inch TV Comply with ECE/TS16949 standard. Standards applicable to parts CNAS



C2.4.2 -4 车内监控报警系统 由 CAN 总线通信， 含前后中门监控器， 倒车雷达。 遵循 ECE/TS16949 标准. 零部件适用标准零部件适用标准 CNAS
The in-vehicle monitoring and alarm system is communicated by CAN bus, including front and rear door monitors, and reversing radar. Comply with ECE/TS16949 standard. Standards applicable to parts CNAS

C2.4.2.7 整车外观（180 度）， 整体外观喷涂方案由业主指定遵循 ECE/TS16949/CNAS 标准./The appearance of the whole vehicle (180 degrees), the overall appearance spraying scheme is designated by the owner to comply with ECE/TS16949/CNAS standards./

