PRM NTSN 2021 Compliance Matrix

		Table Key	
Formation	Class 170/1/3/5/6 Refurb	Targeted Compliance	Compliance Achieved
Operator	Porterbrook - CrossCountry/East Midlands Railway	Compliance Achieved with Modifications	Dispensation Required
Issue	Draft 2	Not applicable	Non-Compliance Accepted

Accessibility Standard	Vehicle Designation
PRM NTSN 2021	Operator: CrossCountry Trains/ East Midlands Railway

Clause No.	Requirement(s)	Commentary	Compliance Status
	4.2.2.1 Seats		
4.2.2.1.1	**General**		
4.2.2.1.1 Para (1)	Handholds or vertical handrails or other items that can be used for personal stability, whilst using the aisle, shall be provided on all aisle-side seats unless the seat, when in the upright position, is within 200 mm of: — the back of another seat facing in the opposite direction which is fitted with a handhold or a vertical handrail or other items that can be used for personal stability.	**All required aisle seats are fitted with a handhold, except back to back seats and bulkhead locations.** **See Layout Drawings PB-C0-2126848 & PB-C0-2126850**	Compliance Achieved
4.2.2.1.1 Para (2)	Handholds or other items that can be used for personal stability shall be positioned at a height of between 800 mm and 1200 mm above the floor, measured from the centre of the usable part of the handhold, shall not protrude into the clearway and shall contrast with the seat.	**The centre of the seat back handhold measures 917mm from floor level**	Compliance Achieved
4.2.2.1.1 Para (3)	In seating areas with fixed longitudinal seats, handrails shall be used for personal stability. These handrails shall be at a maximum distance of 2000 mm apart, shall be positioned at a height of between 800 mm and 1200 mm above the floor and shall contrast with the vehicle interior surroundings.	**Within the seated saloon areas, all aisle seats will have grab handles, within wheelchair area modifications/new grab handle have been installed to ensure a maximum distance of 2m between handrails, see drawing DG8-SK-93797**	Compliance Achieved
4.2.2.1.1 Para (4)	The handholds or other items shall not have sharp edges.	**Handholds have no sharp edges**	Compliance Achieved
4.2.2.1.2	**Priority Seats**		
4.2.2.1.2.1	**General**		
4.2.2.1.2.1 Para (1)	Not less than 10 per cent of the seats by fixed trainset or individual vehicle, and by class shall be designated as priority seats for the use of persons with disabilities and persons with reduced mobility.	**More than 10% of the new seats in both Standard Class and First Class are designated as priority seats, see drawings PB-C0-2126848 & PB-C0-2126850**	Compliance Achieved
4.2.2.1.2.1 Para (2)	The priority seats and vehicles containing them shall be identified by signs complying with appendix N. It shall be stated that other passengers shall make such seats available to those who are eligible to use them when required.	**All priority seats have a sign complying with Appendix N, see drawings and documents: Cross Country: PB-C0-2126370, PB-C0-2126369, PB-C0-2126368, EMR Documents: EMR-141, EMR-142 & EMR-144**	Compliance Achieved
4.2.2.1.2.1 Para (3)	The priority seats shall be located within the passenger saloon and in close proximity to external doors. In double deck vehicles or trainsets, priority seats can be present on both decks.	**Priority seats where required have been relocated to be uni-directional and in close proximity to external doors.See drawings PB-C0-2126848 & PB-C0-2126850**	Compliance Achieved
4.2.2.1.2.1 Para (4)	The level of equipment fitted to the priority seats shall, as a minimum, be the same as that fitted to general seats of the same type.	**All Priority seats will have access to the same level of equipment, this will include tables and sockets.**	Compliance Achieved
4.2.2.1.2.1 Para (5)	When seats of a certain type are fitted with armrests, priority seats of the same type shall be fitted with movable armrests. This excludes armrests placed along the vehicle body side or along a partition wall in case of compartments. The movable armrest shall move into a position in line with the seat back cushion to enable unrestricted access to the seat or to any adjacent priority seats.	**Priority seats are fitted with moveable armrests.**	Compliance Achieved
4.2.2.1.2.1 Para (6)	Priority seats shall not be tip-up seats.	**No Priority seats are tip-ups**	Compliance Achieved
4.2.2.1.2.1 Para (7)	Each priority seat and the space available to its user shall comply with the figures H1 to H4 from Appendix H.	**Base heights measured between 450mm, see point 4.2.2.1.2.1 Para (9). Seat base widths - 450mm. Headroom 1769 minimum.**	Compliance Achieved
4.2.2.1.2.1 Para (8)	The whole useful sitting surface of the priority seat shall be a minimum of 450 mm wide (see figure H1).	**The whole useful sitting surface measures 450mm - See drawing DG8-SK-93793**	Compliance Achieved
4.2.2.1.2.1 Para (9)	The top of each priority seat cushion shall be between 430 and 500 mm above floor level at the front edge of the seat.	**The top of each seat cushion at the front edge measures 450mm - See drawing DG8-SK-93793**	Compliance Achieved
4.2.2.1.2.1 Para (10)	The clear headroom above each seat shall be at least 1 680 mm from floor level, except on double-decker trains on which luggage racks are provided above the seats. In such case reduced headroom of 1 520 mm is permitted for priority seats underneath the luggage racks, provided that at least 50 % of priority seats maintain headroom of 1 680 mm.	**Clear headroom measures at 1769 minimum from floor level. See drawing DG8-SK-93793**	Compliance Achieved
4.2.2.1.2.1 Para (11)	Where reclining seats are fitted, the dimensions shall be measured when the seats are in their fully upright position.	**No reclining seats**	Not applicable
4.2.2.1.2.2	**Unit-directional Seats**		
4.2.2.1.2.2 Para (1)	Where unit-directional priority seats are provided, the clearance in front of each seat shall comply with figure H2.	**See drawings PB-C0-2126848 & PB-C0-2126850**	Compliance Achieved
4.2.2.1.2.2 Para (2)	The distance between the front surface of the seat back and the vertical plane through the rearmost part of the seat in front shall be a minimum of 680 mm, noting that the required seat pitch shall be measured from the centre of the seat 70 mm above where the cushion meets the back support.	**See drawings PB-C0-2126848 & PB-C0-2126850**	Compliance Achieved
4.2.2.1.2.2 Para (3)	There shall also be a clear space between the front edge of the seat cushion and the same vertical plane for the seat in front of a minimum of 230 mm.	**See drawings PB-C0-2126848 & PB-C0-2126850**	Compliance Achieved
4.2.2.1.2.3	**Facing Seat Arrangement**		
4.2.2.1.2.3 Para (1)	Where facing priority seats are provided, the distance between the front edges of the seat cushions shall be a minimum of 600 mm (See figure H3). Such distance shall be maintained even if one of the facing seats is not a priority seat.	**No facing priority seats**	Not applicable
4.2.2.1.2.3 Para (2)	Where facing priority seats are equipped with a table, there shall be a minimum clear horizontal distance between the front edge of the seat cushion and the leading edge of the table of at least 230 mm (See figure H4). When one of the facing seats is not a priority seat, its distance to the table can be reduced provided that the distance between the front edges of the seat cushions remains 600 mm. Sidewall mounted tables which length does not extend over the centre line of the window seat do not need to be considered for conformity with this paragraph.	**No facing priority seats**	Not applicable
	4.2.2.2 Wheelchair Spaces		
4.2.2.2 Para (1)	According to the length of the unit, excluding the locomotive or power head, there shall be in the unit not less than the number of accessible wheelchair spaces shown in the following table: **Unit Length — No of wheelchair spaces by unit** Less than 30m — 1 wheelchair space 30 to 205m — 2 wheelchair spaces 205 to 300m — 3 wheelchair spaces More than 300m — 4 wheelchair spaces	**There are two wheelchair spaces. The length of the unit is less than 205m. See drawing DG8-SK-93794**	Compliance Achieved
4.2.2.2 Para (2)	To ensure stability, the wheelchair space shall be designed for the wheelchair to be positioned either facing or back to the direction of travel.	**The wheelchair, in both locations can only be positioned longitudinally. See drawing DG8-SK-93794**	Compliance Achieved
4.2.2.2 Para (3)	Over the full length of the wheelchair space the width shall be 700 mm from floor level to a minimum height of 1 450 mm with an additional 50 mm width to give clearance for hands on each side that is adjacent to any obstacle that will inhibit clearance for the wheelchair users hands (e.g. wall or structure) from a height of 400 mm to 800 mm above floor level (if one side of the wheelchair is adjacent to the aisle there is no additional 50 mm requirement for that side of the wheelchair as it is already free space).	**See drawings DG8-SK-93794**	Compliance Achieved
4.2.2.2 Para (4)	The minimum distance in the longitudinal plane between the back of the wheelchair space and the next surface shall be in accordance with Appendix I, figures I1 to I3.	**The smallest wheelchair space is 1602mm from wheelchair back support to front edge of the tip up seat cushion when in the seating position (wheelchair position UAT side) See drawing DG8-SK-93794**	Compliance Achieved
4.2.2.2 Para (5)	There shall be no obstruction of the designated space between the floor and the ceiling of the vehicle other than an overhead luggage rack, a horizontal handrail in accordance with the requirements of point 4.2.2.9 attached to the wall or ceiling of the vehicle, or a table.	**A removable table is fitted in both wheelchair locations which is permitted. No other obstructions. See drawing DG8-SK-93794**	Compliance Achieved
4.2.2.2 Para (6)	The back of the wheelchair space shall be a structure or other acceptable fitting of at least 700 mm wide. The height of the structure, or fitting, shall be capable of preventing a wheelchair that has been positioned with its back against the structure or fitting, from tipping over backwards.	**UAT exterior panels: Minimum 700mm wide.** **Draughtscreen Partition: Minimum 700mm wide - See drawing DG8-SK-93794**	Compliance Achieved
4.2.2.2 Para (7)	Tip-up seats may be installed in the wheelchair space but, when in the stowed position, shall not encroach on the dimensional requirements of the wheelchair space.	**Tip-up seats and folding seats are situated within the wheelchair spaces, however do not encroach into the wheelchair space requirements, see drawings: DG8-SK-93794**	Compliance Achieved
4.2.2.2 Para (8)	It is not allowed to install any permanent equipment such as bicycle hooks or ski racks into the wheelchair space or directly in front of it.	**No permanent equipment is installed in the wheelchair area. See drawing DG8-SK-93794**	Compliance Achieved
4.2.2.2 Para (9)	At least one seat shall be available either adjacent to or facing to each of the wheelchair spaces for a companion to travel with the wheelchair user. This seat shall offer the same level of comfort as the other passenger seats, and may also be situated on the opposing side of the aisle.	**Folding seats are provided as companion seats, these are however the same level of comfort as the rest of the seats throughout the vehicle. See drawing DG8-SK-93794**	Compliance Achieved
4.2.2.2 Para (10)	On trains with a design speed higher than 250 km/h excepting double deck trains, it shall be possible for a wheelchair user occupying a wheelchair space to transfer onto a passenger seat that shall be equipped with a movable armrest. Such transfer is made by the wheelchair user in autonomy. In that case, it is allowed that the companion seat is shifted to another row. This requirement is applicable up to the number of wheelchair spaces per unit specified in table 5.		Not applicable
4.2.2.2 Para (11)	The wheelchair space shall be fitted with a call for aid device that shall, in the event of danger, provide to a wheelchair user the possibility to inform a person who can take appropriate action.	**New call for Aid units have been fitted in each wheelchair space, see drawing DG8-SK-93795**	Compliance Achieved
4.2.2.2 Para (12)	The call for aid device shall be placed within the comfortable reach range of the person using the wheelchair as shown in Appendix L, figure L1.	**The call for Aid is positioned within comfortable reach of the person using the wheelchair, see drawing DG8-SK-93795**	Compliance Achieved
4.2.2.2 Para (13)	The call for aid device shall not be placed within a narrow recess which prevents immediate intentional palm operation but can be protected from unintentional use	**The call for aid device is not placed within a narrow recess, see drawing DG8-SK-93795**	Compliance Achieved
4.2.2.2 Para (14)	The interface of the call for aid device shall be as defined in point 5.3.2.6.	**See section 5.3.2.6**	Compliance Achieved
4.2.2.2 Para (15)	A sign conforming to appendix N shall be placed immediately next to, or in the wheelchair space so as to identify the space as the wheelchair space.	**Both wheelchair spaces have compliant wheelchair signs.** **See drawings: CrossCountry PB-C0-2126369, EMR Documents: EMR-141, EMR-142 & EMR-144**	Compliance Achieved
	4.2.2.3 Doors		
4.2.2.3.1	**General**		
4.2.2.3.1 Para (1)	These requirements apply only to doors providing access to another public part of the train, with the exclusion of toilet doors.	Information only	Compliance Achieved
4.2.2.3.1 Para (2)	To latch or unlatch a manually operated door, for use by the public, the control device shall be operable by the palm of the hand exerting a force not exceeding 20 N.	Not part of this scope of work	Not applicable
4.2.2.3.1 Para (3)	Door controls, whether manual, pushbuttons or other devices, shall contrast with the surface on which they are mounted.	**Door controls both manual and pushbuttons provide sufficient contrast with the surface on which they are mounted, see colour contrast documents CrossCountry: XC-23-001-003, EMR: PB-22-012-004**	Compliance Achieved
4.2.2.3.1 Para (4)	Their interface with passengers shall comply with the specifications of point 5.3.2.1.	See section 5.3.2.1	Compliance Achieved
4.2.2.3.1 Para (5)	If both open and closed door control devices are fitted one above the other, the top device shall always be the open control.	Not part of this scope of work	Not applicable

4.2.2.3.2	**Exterior Doors**		
4.2.2.3.2 Para (1)	All exterior passenger doorways shall have a minimum clear useable width of 800 mm when open.	Not part of this scope of work	Not applicable
4.2.2.3.2 Para (2)	On trains with a design speed lower than 250 km/h, wheelchair access doors offering a level access as defined in point 2.3 shall have a minimum clear useable width of 1 000 mm when open.	<250 km/h	Not applicable
4.2.2.3.2 Para (3)	All exterior passenger doorways shall be marked on the outside in a way that gives a contrast to the vehicle body-side surrounding them.	**Bodyside doors provide sufficient contrast to the bodyside, see drawings CrossCountry: PB-C0-2126359, PB-C0-2126390, PB-C0-2126391, PB-C0-212639, and document: CrossCountry: XC-23-001-003, EMR: PB-C0-2123806, PB-C0-2123808**	Compliance Achieved
4.2.2.3.2 Para (4)	The designated wheelchair exterior accessible doorways shall be the closest doorways to the designated wheelchair spaces.	**Wheelchair accessible doorway is nearest to the wheelchair spaces.**	Compliance Achieved
4.2.2.3.2 Para (5)	The doors to be used for wheelchair access shall be clearly labelled with a sign in accordance with appendix N.	**Wheelchair accessible doorways are labelled with a sign in accordance with Appendix N, see drawings CrossCountry: PB-C0-2126363, EMR: PB-C0-2123807, PB-C0-2123809**	Compliance Achieved
4.2.2.3.2 Para (6)	From the inside of the vehicle the position of external doorways shall clearly be marked by use of contrasted adjacent flooring.	**New flooring throughout the vehicles have been specified and provide sufficient contrast, see documents CrossCountry: XC-23-001-003, EMR: PB-22-012-004**	Compliance Achieved
4.2.2.3.2 Para (7)	When a door is released for opening a signal shall be given that is clearly audible and visible to persons inside and outside the train. This alert signal shall last for a minimum of five seconds unless the door is operated, in which case it may cease after 3 seconds.	Not part of this scope of work	Not applicable
4.2.2.3.2 Para (8)	When a door is automatically or remotely opened by the driver or other member of the train crew, the alert signal shall last for a minimum 3 seconds from the moment that the door starts to open.	Not part of this scope of work	Not applicable
4.2.2.3.2 Para (9)	When a door that is automatically or remotely closed, is about to operate, an audible and visible alert signal shall be given to persons inside and outside the train. The alert signal shall start a minimum of 2 seconds before the door starts to close and shall continue while the door is closing.	Not part of this scope of work	Not applicable
4.2.2.3.2 Para (10)	The sound source for door alert signals shall be located in the area local to the control device or, if there is no such control device, adjacent to the doorway.	Not part of this scope of work	Not applicable
4.2.2.3.2 Para (11)	The visible signal shall be visible from inside and outside the train and shall be located such that it minimises the opportunity for it to be obscured by passengers located in the vestibule.	Not part of this scope of work	Not applicable
4.2.2.3.2 Para (12)	Passenger doors audible alert signals shall be according to the specification in appendix G	Not part of this scope of work	Not applicable
4.2.2.3.2 Para (13)	The method of door activation shall be by train crew, semi-automatic (i.e. passenger pushbutton operation) or automatic.	Not part of this scope of work	Not applicable
4.2.2.3.2 Para (14)	The door control shall be located either next to or on the door leaf.	Not part of this scope of work	Not applicable
4.2.2.3.2 Para (15)	The centre of exterior door opening control, operable from the platform, shall be not less than 800 mm and not more than 1 200 mm measured vertically above platforms, for all platforms for which the train is designed. If the train is designed for a single platform height, the centre of exterior door opening control shall be not less than 800 mm and not more than 1 100 mm measured vertically above that platform height.	Not part of this scope of work	Not applicable
4.2.2.3.2 Para (16)	The centre of internal door opening control for the exterior door shall be not less than 800 mm and not more than 1 100 mm measured vertically above the vehicle floor level.	Not part of this scope of work	Not applicable
4.2.2.3.3	**Interior Doors**		
4.2.2.3.3 Para (1)	Internal automatic and semi-automatic doors shall incorporate devices that prevent passengers becoming trapped during operation of the doors.	Not part of this scope of work	Not applicable
4.2.2.3.3 Para (2)	Interior doors that are made available for wheelchair users shall have a minimum clear useable width of 800 mm.	Not part of this scope of work	Not applicable
4.2.2.3.3 Para (3)	The force required to open or close a manual door shall not exceed 60 N.	Not part of this scope of work	Not applicable
4.2.2.3.3 Para (4)	The centre of interior door controls shall be not less than 800 mm and not more than 1100 mm measured vertically above the vehicle floor level.	Not part of this scope of work	Not applicable
4.2.2.3.3 Para (5)	Automatic inter-vehicle connecting doors shall operate either synchronously as a pair, or the second door shall automatically detect the person moving towards it and open.	Not part of this scope of work	Not applicable
4.2.2.3.3 Para (6)	If more than 75 % of a door's surface is made of a transparent material, it shall be clearly marked with visual indicators.	**New door contrast bands have been designed, see drawings CrossCountry: PB-C0-2126368, EMR Documents: EMR-141, EMR-142 & EMR-144**	Compliance Achieved
4.2.2.4 Lighting			
4.2.2.4 Para (1)	Minimum values of average illuminance in the passenger areas shall be according to point 4.1.2 of the specification referenced in Appendix A, index 6. Requirements relative to the uniformity of these values are not applicable for conformity with this NTSN	Not part of this scope of work	Not applicable
4.2.2.5 Toilets			
4.2.2.5 Para (1)	When toilets are fitted in a train, a universal toilet shall be provided accessible from the wheelchair space.	**UAT is accessible from wheelchair area**	Compliance Achieved
4.2.2.5 Para (2)	The standard toilet shall be compliant with the requirements of points 5.3.2.2 and 5.3.2.3.	**See Relevant section**	
4.2.2.5 Para (3)	The universal toilet shall be compliant with the requirements of points 5.3.2.2 and 5.3.2.4.	**See Relevant section**	
4.2.2.5 Para (4)	When toilets are fitted in a train a baby nappy changing facility shall be provided. If separate nursery facilities are not provided or if separate nursery facilities are provided but are not accessible to a wheelchair user, a table shall be incorporated within the universal toilets. It shall be compliant with the requirements of point 5.3.2.5.	**See Relevant section**	
4.2.2.6 Clearways			
4.2.2.6 Para (1)	From the vehicle entrance, the section of the clearway shall be as follows:— through the vehicles according to figure J1 of Appendix J,— between connecting vehicles of a single trainset, according to figure J2 of Appendix J,— to and from wheelchair accessible doors, wheelchair spaces and wheelchair accessible areas including sleeping accommodation and universal toilets if provided, according to figure J3 of Appendix J.	**Minimum Wheelchair through route is 935mm - See drawing DG8-SK-93796** **Priority seat clearways are greater than 450mm - Narrowest at aisle which is 454mm**	Compliance Achieved
4.2.2.6 Para (2)	The minimum height requirement does not need to be verified in:— all areas of double-deck vehicles,— gangways and door areas of single deck vehicles, In those areas, reduced headroom is accepted as a consequence of structural constraints (gauge, physical space).	**Minimum headroom must be 1950mm, new PIS units have a minimum of headroom of 1950mm - see drawing DG8-SK-93768**	Compliance Achieved
4.2.2.6 Para (3)	A turning space, with a minimum diameter of 1 500 mm, shall be provided adjacent to the wheelchair space and in other locations where wheelchairs are supposed to turn 180o. The wheelchair space may be part of the turning circle.	**There are Ø1500mm turning circles available adjacent to each wheelchair space. The circles intersect but do not encroach into the adjacent space where a wheelchair will be situated. See drawing DG8-SK-93796**	Compliance Achieved
4.2.2.6 Para (4)	If a change in direction is required for a wheelchair user, the clearway width of both corridors shall be in accordance to table K1 of Appendix K.	**Compliant - perpendicular width 1330mm, corridor clearway min 936mm. see drawing DG8-SK-93768**	Compliance Achieved
4.2.2.7 Customer Information			
4.2.2.7.1	**General**		
4.2.2.7.1 Para (1)	The following information shall be provided: — Safety Information and safety instructions — Audible safety instructions coupled with visible signals in case of emergency — Warning, prohibition and mandatory actions signs — Information concerning the route of the train, including information about delays and unplanned stops, — Information concerning the location of on-board facilities.	Information Only	Compliance Achieved
4.2.2.7.1 Para (2)	Visual information shall contrast with its background.	**See Documents CrossCountry: XC-23-001-009, XC-23-001-005, EMR Documents: EMR-141, EMR-142 & EMR-144**	Compliance Achieved
4.2.2.7.1 Para (3)	The typeface used for texts shall be easily readable.	**See Documents CrossCountry: XC-23-001-009, XC-23-001-005, EMR Documents: EMR-141, EMR-142 & EMR-144**	Compliance Achieved
4.2.2.7.1 Para (4)	Time information presented in digits shall be in the 24 h system	**No time information present on signage**	Not applicable
4.2.2.7.2	**Signage, Pictograms and Tactile Information**		
4.2.2.7.2 Para (1)	All safety, warning, mandatory action and prohibition signs shall include pictograms and shall be designed according to the specification referenced in Appendix A, index 7.	**Signage includes pictograms. See Documents CrossCountry: XC-23-001-009, XC-23-001-005, EMR Documents: EMR-141, EMR-142 & EMR-144**	Compliance Achieved
4.2.2.7.2 Para (2)	There shall be no more than five pictograms, together with a directional arrow, indicating a single direction placed adjacent to each other at a single location.	**No more than 5 pictograms, See Documents CrossCountry: XC-23-001-009, XC-23-001-005, EMR Documents: EMR-141, EMR-142 & EMR-144**	Compliance Achieved
4.2.2.7.2 Para (3)	The following specific pictograms shall be fitted with the wheelchair symbol in accordance with appendix N: — Directional information for wheelchair accessible amenities — Indication of the wheelchair accessible door location outside the train — Indication of the wheelchair space inside the train — Indication of the universal toilets. The symbols can be combined with other symbols (for example: carriage number, toilet, etc.).	**Wheelchair accessible amenities are adjacent to the door and signage not required. All other signage present,see Documents CrossCountry: XC-23-001-009, XC-23-001-005 and Drawings CrossCountry: PB-C0-2126368, PB-C0-2126369, PB-C0-2126370, PB-C0-2126371, EMR Documents: EMR-141, EMR-142 & EMR-144**	Compliance Achieved
4.2.2.7.2 Para (4)	Where inductive loops are fitted these shall be indicated by a pictogram complying with appendix N.	No induction loops	Not applicable
4.2.2.7.2 Para (5)	In universal toilets, where hinged handrails are provided, a pictogram showing the rail in both the stowed and deployed positions shall be provided.	**A pictogram showing the rail in both stowed and deployed positions is provided. See drawings CrossCountry: PB-C0-2126371, EMR Documents: EMR-141, EMR-142 & EMR-144**	Compliance Achieved
4.2.2.7.2 Para (6)	If a vehicle provides reserved seats then the number or letter of that vehicle (as used in the reservation system) shall be displayed externally on or adjacent to all its access doors. The number or letter shall be displayed in characters not less than 70 mm high and shall be visible when the door is open and closed.	**Vehicles have coach letters next to exterior doors, see drawings CrossCountry: PB-C0-2126363, EMR Documents: EMR-141, EMR-142 & EMR-144**	Compliance Achieved
4.2.2.7.2 Para (7)	If seats are identified by numbers or letters, the number or letter of the seat shall be displayed on or adjacent to every seat in characters not less than 12 mm high. Such numbers and letters shall contrast with their background.	**Seat identification numbers are displayed and characters are more than 12mm high, see drawings PB-C0-2126368, PB-C0-2126369, PB-C0-2126370, EMR Documents: EMR-141, EMR-142 & EMR-144**	Compliance Achieved
4.2.2.7.2 Para (8)	Tactile information signage shall be fitted in:— Toilets and wheelchair accessible sleeping accommodation, for functional information and call for aid device if appropriate — Rolling stock, for the open/close button of passenger accessible doors and call for aid devices	**Pictograms used throughout are tactile and braille. See Document drawings CrossCountry: PB-C0-2126371, EMR Documents: EMR-141, EMR-142 & EMR-144**	Compliance Achieved
4.2.2.7.3	**Dynamic Visual Information**		
4.2.2.7.3 Para (1)	The final destination or route shall be displayed on the outside of the train on the platform side adjacent to at least one of the passenger access doors on a minimum of alternate vehicles of the train.	**No side displays are to be fiited adjacent to the bodyside doors, new side displays would mean structural changes to the vehicles. Vehicles have displays on the front ends.**	Dispensation Required
4.2.2.7.3 Para (2)	Where trains operate in a system, in which dynamic visual information is given on the station platform every 50 m or less, and destination or route information is also provided on the front of the train, it is not mandatory to provide information on the sides of vehicles.	**Not every station will have dynamic visual information**	Not applicable
4.2.2.7.3 Para (3)	The final destination or route of the train shall be displayed inside each vehicle.	**System provides details of final destination**	Compliance Achieved
4.2.2.7.3 Para (4)	The next stop of the train shall be displayed such that it can be read from a minimum of 51 % of passenger seats inside each vehicle including 51 % of the priority seats, and from all wheelchair spaces.	**More than 51% of priority seats can see the PIS displays -See drawings PB-C0-2126848, PB-C0-2126849 & PB-C0-2126850** **Only one wheelchair space can see a PIS display**	Dispensation Required
4.2.2.7.3 Para (5)	This information shall be displayed at least two minutes before arrival at the station concerned. If the next station is less than two minutes planned journey time away, the next station shall be displayed immediately following departure from the previous station.	**Compliant, see Train FX document TFX24001-PRM-CR-01**	Compliance Achieved
4.2.2.7.3 Para (6)	The requirement to make the destination and 'next stop' information visible from 51% of passenger seats does not apply to compartment carriages where the compartments have a maximum of 8 seats and are served by an adjacent corridor. However, this information shall be visible to a person standing in a corridor outside a compartment and to a passenger occupying a wheelchair space.	>8 seats	Not applicable
4.2.2.7.3 Para (7)	The information about the next stop may be displayed on the same support as the final destination. However, it shall revert to show the final destination as soon as the train has stopped.	**Compliant, see Train FX document TFX24001-PRM-CR-01**	Compliance Achieved
4.2.2.7.3 Para (8)	If the system is automated, it shall be possible to suppress or correct incorrect or misleading information.	**Compliant, see Train FX document TFX24001-PRM-CR-01**	Compliance Achieved
4.2.2.7.3 Para (9)	Internal and external displays shall comply with the requirements of point 5.3.2.7. In this point, the term 'display' shall be understood as any support of dynamic information.	**See point 5.3.2.7**	
4.2.2.7.4	**Dynamic Audible Information**		
4.2.2.7.4 Para (1)	The train shall be fitted with a public address system which shall be used either for routine or emergency announcements by the driver or by another crew member who has specific responsibility for passengers.	**Compliant, see Train FX document TFX24001-PRM-CR-01**	Compliance Achieved
4.2.2.7.4 Para (2)	The public address system may operate on a manual, an automated or pre- programmed basis. If the public address system is automated, it shall be possible to suppress, or correct, incorrect or misleading information.	**Compliant, see Train FX document TFX24001-PRM-CR-01**	Compliance Achieved
4.2.2.7.4 Para (3)	The public address system shall be capable of announcing the destination and next stop of the train at each stop, or on departure from each stop.	**Compliant, see Train FX document TFX24001-PRM-CR-01**	Compliance Achieved

4.2.2.7.4 Para (4)	The public address system shall be capable of announcing the next stop of the train at least two minutes before the arrival of the train at that stop. If the next station is less than two minutes planned journey time away, the next station shall be announced immediately following departure from the previous station.	**Compliant, see Train FX document TFX24001-PRM-CR-01**	**Compliance Achieved**
4.2.2.7.4 Para (5)	The spoken information shall have a minimum STI-PA level of 0,45, in accordance with the specification referenced in Appendix A, index 5. The public address system shall meet the requirement at all seat locations and wheelchair spaces.	**System will be tested and adjusted once installed on First Unit**	**Compliance Achieved**
4.2.2.8 Height Changes			
4.2.2.8 Para (1)	Internal steps (other than those for external access) shall have a maximum height of 200 mm and a minimum depth of 280 mm, measured at the central axis of the stairs. For double deck trains it is permitted to reduce this value to 270 mm for the stairs accessing the upper deck and the lower deck.	No internal steps	**Not applicable**
4.2.2.8 Para (2)	As a minimum the first and the last step shall be indicated by a contrasting band with a depth of 45 mm to 55 mm extending the full width of the steps on both the front and the top surfaces of the step nosing.	**There is a 50mm contrasting band at the edge of the step on the top surface only. The rise of the step is not big enough to incorporate a 50mm band on the front face.**	**Compliance Achieved**
4.2.2.8 Para (3)	Stairs constituted of more than three steps shall be provided with handrails on both sides and at two levels. The higher handrail shall be positioned at a height of 850 mm to 1 000 mm above floor level. The lower handrail shall be positioned at a height of 500 mm to 750 mm above floor level.	No Stairs	**Not applicable**
4.2.2.8 Para (4)	Stairs constituted of one, two or three steps shall be provided on both sides with a minimum of one handrail or other item that can be used for personal stability.	No Stairs	**Not applicable**
4.2.2.8 Para (5)	Handrails shall be compliant with point 4.2.2.9	**See Point 4.2.2.9**	**Compliance Achieved**
4.2.2.8 Para (6)	No steps are allowed between the vestibule of a wheelchair accessible exterior door, the wheelchair space, a universal sleeping compartment and the universal toilet except for a door threshold strip that shall not exceed 15 mm in height or except in case that a lift is provided to overcome the step. The lift shall comply with the requirements of point 5.3.2.10.	No Stairs	**Not applicable**
4.2.2.8 Para (7)	For ramps in rolling stock the maximum slope shall not exceed the following values in Table 6:	No Ramps	**Not applicable**
4.2.2.9 Handrails			
4.2.2.9 Para (1)	All handrails fitted to a vehicle shall be round in section with an outside diameter of 30 mm to 40 mm, and shall have a minimum clear distance of 45 mm to any adjacent surface other than its mountings.	**Handrails are round with 38.1mm diameter. Modified or new grabs**	**Compliance Achieved**
4.2.2.9 Para (2)	If a handrail is curved, the radius to the inside face of the curve shall be a minimum of 50 mm.	**All new handrails have a radius greater than 50mm, see drawings DG8-SK-93797**	**Compliance Achieved**
4.2.2.9 Para (3)	All handrails shall contrast with their background.	**All handrails contrast with their background, see documents PB-22-012-004 & XC-23-001-003**	**Compliance Achieved**
4.2.2.9 Para (4)	External doorways shall be provided with handrails on both sides, fitted internally as close as practicable to the vehicle outer wall. Exception can be made for one side of the doorway if it is fitted with a device such as an on-board lift.	**Handrails are fitted both sides of the doorway.**	**Compliance Achieved**
4.2.2.9 Para (5)	Those handrails shall be:— vertical handrails that shall extend from 700 mm to 1200 mm above the threshold of the first step for all external doorways.— additional handrails at a height of between 800 mm and 900 mm above the first useable step and parallel with the line of the step nosing for doorways with more than two entrance steps.	Not part of this scope of work	**Not applicable**
4.2.2.9 Para (6)	Where the clearway of the gangway is narrower than 1000 mm and longer than 2000 mm there shall be handrails or handholds provided in, or adjacent to, inter- vehicle gangways that are provided for passenger use.	**A new extended handrail has been installed in the UAT area saloon - See drawing PB-C0-2125719 & DG8-SK-93797**	**Compliance Achieved**
4.2.2.9 Para (7)	Where the clearway of the gangway is wider than or equal to 1000 mm handrails or handholds shall be provided in the gangway.	No gangway >1m as part of modification scope	**Not applicable**
4.2.2.10 Wheelchair Accessible Sleeping Accommodation			
4.2.2.10 Para (1)	When a train is equipped with sleeping accommodation for passengers, it shall provide a vehicle containing at least one wheelchair accessible sleeping accommodation.	No sleeping accomodation	**Not applicable**
4.2.2.10 Para (2)	If there is more than one vehicle with sleeping accommodation for passengers in a train, there shall be not less than two wheelchair accessible sleeping accommodations in the train.	No sleeping accomodation	**Not applicable**
4.2.2.10 Para (3)	If a rail vehicle provides wheelchair accessible sleeping accommodation, the exterior of the relevant vehicle door and the wheelchair accessible sleeping accommodation door shall be marked with a sign in accordance with appendix N.	No sleeping accomodation	**Not applicable**
4.2.2.10 Para (4)	The wheelchair accessible sleeping accommodation internal space shall take in consideration the requirements of point 4.2.2.6 for actions expected from the wheelchair user in the sleeping accommodation.	No sleeping accomodation	**Not applicable**
4.2.2.10 Para (5)	The sleeping accommodation shall be fitted with not less than two call for aid devices that shall when operated, send a signal to a person who can take appropriate action; they need not initiate a communication.	No sleeping accomodation	**Not applicable**
4.2.2.10 Para (6)	The interface of the call for aid devices shall be as defined in point 5.3.2.6.	No sleeping accomodation	**Not applicable**
4.2.2.10 Para (7)	One call for aid device shall be placed not more than 450 mm above the floor, measured vertically from the surface of the floor to the centre of the control. It shall be positioned so that the control can be reached by a person lying on the floor.	No sleeping accomodation	**Not applicable**
4.2.2.10 Para (8)	The other call for aid device shall be not less than 600 mm and not more than 800 mm above the floor measured vertically to the centre of the control.	No sleeping accomodation	**Not applicable**
4.2.2.10 Para (9)	These two call for aid devices shall be located on different vertical surfaces of the sleeping accommodation.	No sleeping accomodation	**Not applicable**
4.2.2.10 Para (10)	The call for aid devices shall be distinct from any other control within the sleeping accommodation, be coloured differently from other control devices and contrast with their background.	No sleeping accomodation	**Not applicable**
4.2.2.11 Step position for Vehicle Access and Egress			
4.2.2.11.1	**General Requirements**		
4.2.2.11.1 Para (1)	It shall be demonstrated that the point situated in the central position on the nose of the access step of each passenger access door on both sides of a vehicle in working order with new wheels standing centrally on the rails, shall be located inside the surface identified as 'step location' on figure 1.	Not part of this scope of work	**Not applicable**
4.2.2.11.1 Para (2)	The values of bq0, δh, δv+ and δv– depend on the type of platform where the rolling stock is intended to stop. They shall be as follows:— bq0 shall be calculated based on the gauge of the track in which the train is intended to operate in accordance with the specification referenced in Appendix A, index 8. Gauges are defined in chapter 4.2.3.1 of INF NTSN.	Not part of this scope of work	**Not applicable**
4.2.2.11.1 Para (3)	The technical documentation requested in point 4.2.12 of the LOC&PAS NTSN shall include information about the height and offset of the theoretical platform resulting in a vertical gap (δv+) of 230 mm and in a horizontal gap (δh) of 200 mm from the point situated in the central position of the nose of the rolling stock's lowest step on a straight level track.	Not part of this scope of work	**Not applicable**
4.2.2.11.2	**Access/Egress Steps**		
4.2.2.11.2 Para (1)	All steps for access and egress shall be slip resistant and shall have an effective clear width as large as the doorway width.	**The 'step' for access and egress has a non-slip surface**	**Compliance Achieved**
4.2.2.11.2 Para (2)	Internal steps for external access shall have a minimum depth of 240 mm between the vertical edges of the step and a maximum height of 200 mm. The height of each step may be increased to a maximum of 230 mm if it can be demonstrated that this achieves a reduction of one in the total number of steps required.	**No steps**	**Not applicable**
4.2.2.11.2 Para (3)	The rising height of each step shall be equal.	**No steps**	**Not applicable**
4.2.2.11.2 Para (4)	As a minimum the first and the last steps shall be indicated by a contrasting band with a depth of 45 mm to 55 mm extending a minimum of 80 % of the width of the steps on the top surface of the step nosing. A similar band shall indicate the front surface of the last step when entering the unit.	**There is a 50mm contrasting band at the edge of the step on the top surface only. The rise of the step is not big enough to incorporate a 50mm band on the front face, see drawings CrossCountry: PB-C0-2126359, EMR: PB-C0-2123806**	**Compliance Achieved**
4.2.2.11.2 Para (5)	An external access step, fixed or moveable, shall have a maximum height of 230 mm between steps and a minimum depth of 150 mm.	Not part of this scope of work	**Not applicable**
4.2.2.11.2 Para (6)	If a step board is fitted and it is an extension of a door sill outside the vehicle, and there is no change in level between the step board and the floor of the vehicle, this shall not be considered to be a step for the purposes of this specification. A minimal drop in level, with a maximum of 60 mm, between the floor surface at door sill and that of the exterior of the vehicle, used to guide and seal the door is also permissible and shall not be considered as a step.	Not part of this scope of work	**Not applicable**
4.2.2.11.2 Para (7)	Access to the vestibule of the vehicle shall be achieved with a maximum of 4 steps of which one may be external.	**No steps**	**Not applicable**
4.2.2.11.2 Para (8)	Rolling stock intended to stop, in normal operation, at existing platforms below 380 mm height and having their passenger access doors above bogies need not comply with points (2) and (5) above if it can be demonstrated that this achieves a more even distribution of the steps height.	**Not intended to stop at Platform <360mm**	**Not applicable**
Specific UK Case	It is permissible for passenger access steps for the vehicle to be designed to meet either the following values when the vehicle is stationary at a GB nominal 915 mm high platform: The values of δh, δv+ and δv– according to the table 25:	Not part of this scope of work	**Not applicable**
4.2.2.12 Boarding Aids			
4.2.2.12 Para (1)	A secure storage system shall be provided to ensure that boarding aids, including portable ramps, do not impinge on a passenger's wheelchair or mobility aid or pose any hazard to passengers in the event of a sudden stop.	Not part of this scope of work	**Not applicable**
4.2.2.12 Para (2)	The following types of boarding aids may be present in the rolling stock according to the rules defined in point 4.4.3:	Not part of this scope of work	**Not applicable**
4.2.2.12.1	**Movable Step and Bridging Plate**		
4.2.2.12.1 Para (1)	A moveable step is a retractable device integrated into the vehicle lower than the door threshold level, fully automatic and activated in conjunction with the door opening/closing sequences.	Not part of this scope of work	**Not applicable**

4.2.2.12.1 Para (2)	A bridging plate is a retractable device integrated into the vehicle as close as possible to the door threshold level, fully automatic and activated in conjunction with the door opening/closing sequences.	Not part of this scope of work	Not applicable
4.2.2.12.1 Para (3)	In the case of the movable step or bridging plate extending beyond that permitted by the gauging rules, the train shall be immobilised whilst the step or plate is extended.	Not part of this scope of work	Not applicable
4.2.2.12.1 Para (4)	The extension of the moveable step or bridging plate shall be completed before the door opening permits the passengers to cross and conversely, removal of the step or plate may only begin when the door opening no longer permits any crossing of passengers.	Not part of this scope of work	Not applicable
4.2.2.12.1 Para (5)	Movable steps and bridging plates shall comply with the requirements of point 5.3.2.8.	Not part of this scope of work	Not applicable
4.2.2.12.2	**On-board ramp**		
4.2.2.12.2 Para (1)	An on-board ramp is a device that is positioned between the vehicle door threshold and the platform. It can be manual, semi-automatic or automatic.	Not part of this scope of work	Not applicable
4.2.2.12.2 Para (2)	On-board ramps shall comply with the requirements of point 5.3.2.9.	Not part of this scope of work	Not applicable
4.2.2.12.3	**On-board lift**		
4.2.2.12.3 Para (1)	An on-board lift is a device integrated into the doorway of a vehicle that shall be able to overcome the maximum height difference between the vehicle floor and the station platform where operated.	Not part of this scope of work	Not applicable
4.2.2.12.3 Para (2)	When the lift is in the stowed position the doorway shall have a minimum useable width according to point 4.2.2.3.2.	Not part of this scope of work	Not applicable
4.2.2.12.3 Para (3)	On-board lifts shall comply with the requirements of point 5.3.2.10.	Not part of this scope of work	Not applicable
5.3.2. Rolling stock			
5.3.2.1	**Interface of the door control device**		
5.3.2.1 Para (1)	A door control device shall have visual indication, on or around it when enabled and shall be operable by the palm of the hand exerting a force not greater than 15 N.	Not part of this scope of work	Not applicable
5.3.2.1 Para (2)	It shall be identifiable by touch (for example: tactile markings); this identification shall indicate the functionality.	Not part of this scope of work	Not applicable
5.3.2.2	**Standard and universal toilets: common parameters**		
5.3.2.2 Para (1)	The centre of any door handle, lock or door control device on the exterior or interior of the toilet compartment shall be located at a minimum of 800 mm and a maximum of 1100 mm above the toilet door threshold.	Not part of this scope of work	Not applicable
5.3.2.2 Para (2)	A visual and tactile (or audible) indication shall be given inside and outside the toilet to indicate when a door has been locked.	Not part of this scope of work	Not applicable
5.3.2.2 Para (3)	Any door control device and other equipment inside the toilet compartment (except for baby nappy change facilities and call for aid devices) shall be operable by exerting a force not exceeding 20 N.	Not part of this scope of work	Not applicable
5.3.2.2 Para (4)	Any control device, including flushing system, shall contrast with the background surface, and shall be identifiable by touch.	**Control devices will contrast with their background, see documents CrossCountry: XC-23-001-003, EMR: PB-22-012-004**	Compliance Achieved
5.3.2.2 Para (5)	Clear, precise information for the operation of any control device shall be provided, making use of pictograms and shall be tactile.	**UAT - New signage to be applied.** **Standard Toilet - New signage to be applied** **Refer to drawings: CrossCountry: PB-C0-2126371, EMR Documents: EMR-141, EMR-142 & EMR-144**	Compliance Achieved
5.3.2.2 Para (6)	The toilet seat and lid, and any handrails shall contrast with the background.	**Toilet seat and handrails contrast with their background, see documents CrossCountry: XC-23-001-003, EMR: PB-22-012-004**	Compliance Achieved
5.3.2.3	**Standard toilet**		
5.3.2.3 Para (1)	A standard toilet is not designed to be accessible to a wheelchair user.	Information Only	Not applicable
5.3.2.3 Para (2)	The minimum door useable width shall be 500 mm.	Not part of this scope of work	Not applicable
5.3.2.3 Para (3)	A fixed vertical and/or horizontal handrail according to point 4.2.2.9 shall be provided adjacent to the toilet seat and the wash basin.	Not part of this scope of work	Not applicable
5.3.2.4	**Universal toilet**		
5.3.2.4 Para (1)	A universal toilet is a toilet designed to be used by all passengers including all persons with disabilities and persons with reduced mobility.	Information Only	
5.3.2.4 Para (2)	The area of use of a universal toilet is defined by the method used for its assessment (A or B according to point 6.1.3.1).	Not part of this scope of work	Not applicable
5.3.2.4 Para (3)	The toilet access door shall provide a minimum clear useable width of 800 mm. Where the door is automatic or semi-automatic, it shall be possible to open it partially in order to allow a wheelchair user's assistant to leave and re-enter the toilet module.	Not part of this scope of work	Not applicable
5.3.2.4 Para (4)	The exterior of the door shall be marked with a sign in accordance with appendix N.	**New Signage installed, see drawings CrossCountry: PB-C0-2126371, EMR Documents: EMR-141, EMR-142 & EMR-144**	Compliance Achieved
5.3.2.4 Para (5)	There shall be sufficient space inside the toilet compartment to enable a wheelchair as defined in appendix M to be manoeuvred to a position allowing both a lateral and a diagonal transfer of the wheelchair occupant to the toilet seat.	Not part of this scope of work	Not applicable
5.3.2.4 Para (6)	There shall be a minimum clear space of 700 mm in front of the toilet seat that shall follow the seat profile.	Not part of this scope of work	Not applicable
5.3.2.4 Para (7)	A horizontal handrail that complies with the requirements of point 4.2.2.9 shall be provided at each side of the toilet seat extending at least to the leading edge of the toilet seat.	Not part of this scope of work	Not applicable
5.3.2.4 Para (8)	The handrail on the wheelchair accessible side shall be hinged in such a way so as to enable an unobstructed transfer for the wheelchair user to and from the toilet seat.	Not part of this scope of work	Not applicable
5.3.2.4 Para (9)	The surface of the toilet seat, when lowered, shall be at a height of 450 mm to 500 mm above the floor level.	Not part of this scope of work	Not applicable
5.3.2.4 Para (10)	All amenities shall be readily accessible to a wheelchair user.	Not part of this scope of work	Not applicable
5.3.2.4 Para (11)	The toilet cubicle shall be fitted with not less than two call for aid devices that shall, when operated, send a signal to a person who can take appropriate action; they need not initiate a communication.	**The toilet cubicleis fitted with two Call for Aid devices, that send a signal to a person who can take action**	Compliance Achieved
5.3.2.4 Para (12)	The interface of the call for aid devices shall be as defined in point 5.3.2.6.	**See points 5.3.2.6**	
5.3.2.4 Para (13)	One call for aid device shall be placed not more than 450 mm above the floor, measured vertically from the surface of the floor to the centre of the control. It shall be positioned so that the control can be reached by a person lying on the floor.	**The lower call for aid device is placed no more than 450mm above floor, see drawing DG8-SK-93798**	Compliance Achieved
5.3.2.4 Para (14)	The other call for aid device shall be not less than 800 mm and not more than 1 100 mm above the floor, measured vertically to the centre of the control.	**The upper call for aid device is placed between 800mm and 1100mm above floor, see drawing DG8-SK-93798**	Compliance Achieved
5.3.2.4 Para (15)	These two call for aid devices shall be located on different vertical surfaces of the cubicle so that they can be reached from a range of positions.	**The two call for aid units are placed on different vertical surfaces**	Compliance Achieved
5.3.2.4 Para (16)	The control of the call for aid devices shall be distinct from any other control within the toilet, be coloured differently from other control devices and contrast with their background.	**Compliant, see Train FX document TFX24001-PRM-CR-01**	Compliance Achieved
5.3.2.4 Para (17)	If a baby nappy changing table is provided, in the lowered position its usable surface shall be between 800 mm and 1 000 mm above floor level.	Not part of this scope of work	Not applicable
5.3.2.5	**Baby nappy changing table**		
5.3.2.5 Para (1)	The usable surface of the baby nappy changing table shall be a minimum of 500 mm wide and 700 mm long.	Not part of this scope of work	Not applicable
5.3.2.5 Para (2)	It shall be designed to prevent a baby from inadvertently sliding off, shall have no sharp edges and shall be able to take a minimum load of 80 kg.	Not part of this scope of work	Not applicable
5.3.2.5 Para (3)	It shall be possible to put it into the stowed position with only one hand, using a force not exceeding 25 N.	Not part of this scope of work	Not applicable
5.3.2.6	**Interface of the call for aid device**		
	A call for aid device shall:		
5.3.2.6 Para (1)	be indicated by a sign having a green or yellow background (according to the specification referenced in appendix A, index 10) and a white symbol, representing a bell or a telephone; the sign can be on the button or bezel or on a separate pictogram;	**See labelling drawings CrossCountry: PB-C0-2126369, PB-C0-2126371, EMR Documents: EMR-141, EMR-142 & EMR-144**	Compliance Achieved
5.3.2.6 Para (2)	include tactile symbols;	**Button contains a tactile bell, also tactile signage is provided, see labelling drawings CrossCountry: PB-C0-2126369, PB-C0-2126371, EMR:XXXX**	Compliance Achieved
5.3.2.6 Para (3)	emit a visual and audible indication to the user that it has been operated;	**Compliant, see Train FX document TFX24001-PRM-CR-01**	Compliance Achieved
5.3.2.6 Para (4)	provide additional operating information if necessary;		Not applicable
5.3.2.6 Para (5)	be operable by the palm of a person's hand and not require a force exceeding 30 N to operate.	**Compliant, see Train FX document TFX24001-PRM-CR-01**	Compliance Achieved
5.3.2.7	**Internal and External Displays**		
5.3.2.7 Para (1)	Each station name (which may be abbreviated), or words of messages, shall be displayed for a minimum of 2 seconds.	**Compliant, see Train FX document TFX24001-PRM-CR-01**	Compliance Achieved
5.3.2.7 Para (2)	If a scrolling display is used (either horizontal or vertical), each complete word shall be displayed for a minimum of 2 seconds and the horizontal scrolling speed shall not exceed an average of 6 characters per second.	**Compliant, see Train FX document TFX24001-PRM-CR-01**	Compliance Achieved
5.3.2.7 Para (3)	The typeface used for texts shall be easily readable.	**Compliant, see Train FX document TFX24001-PRM-CR-01**	Compliance Achieved
5.3.2.7 Para (4)	Upper Case Letters and numbers used in external displays shall have a minimum height of 70 mm on front displays and 35 mm on side displays.	**Compliant, see Train FX document TFX24001-PRM-CR-01**	Compliance Achieved
5.3.2.7 Para (5)	Internal displays shall be designed and assessed for an area of use defined by the maximum viewing distance according to the following formula: Table 13	**Compliant, see Train FX document TFX24001-PRM-CR-01**	Compliance Achieved
5.3.2.8	**Boarding aids: movable steps and bridging plates**		
5.3.2.8 Para (1)	A movable step or bridging plate shall be designed and assessed for an area of use defined by the width of the doorway it can fit.	Not part of this scope of work	Not applicable
5.3.2.8 Para (2)	The mechanical strength of the device shall be according to the specification referenced in Appendix A, index 11.	Not part of this scope of work	Not applicable
5.3.2.8 Para (3)	A suitable mechanism shall be installed in order to ensure the stability of the device in the deployed and retracted position.	Not part of this scope of work	Not applicable
5.3.2.8 Para (4)	The device surface shall be slip resistant and shall have an effective clear width as large as the doorway width.	Not part of this scope of work	Not applicable
5.3.2.8 Para (5)	The device shall be equipped with obstacle detection according to the specification referenced in Appendix A, index 11.	Not part of this scope of work	Not applicable
5.3.2.8 Para (6)	The device shall incorporate a method of deploying and stowing if the power to the step fails.	Not part of this scope of work	Not applicable
5.3.2.9	**Boarding aids: on-board ramps**		
5.3.2.9 Para (1)	Ramps shall be designed and assessed for an area of use defined by the maximum vertical gap they can overcome within a maximum slope of 18 %	Not part of this scope of work	Not applicable
5.3.2.9 Para (2)	Ramps shall withstand a weight of at least 300 kg, placed at the centre of the ramp distributed over an area of 660 mm by 660 mm.	Not part of this scope of work	Not applicable
5.3.2.9 Para (3)	An access ramp shall be either positioned manually by staff or deployed semi- automatically by mechanical means, operated by staff or by the passenger.	Not part of this scope of work	Not applicable
5.3.2.9 Para (4)	If the ramp is power operated it shall incorporate a method of manual operation should power fail.	Not part of this scope of work	Not applicable
5.3.2.9 Para (5)	The ramp surface shall be slip resistant and shall have an effective clear width of a minimum of 760 mm.	Not part of this scope of work	Not applicable
5.3.2.9 Para (6)	Ramps having a clear width of less than 1 000 mm shall have raised edges on both sides to prevent mobility aid wheels from slipping off.	Not part of this scope of work	Not applicable
5.3.2.9 Para (7)	The upstands at both ends of the ramp shall be bevelled and shall not be higher than 20 mm. They shall have contrasting hazard warning bands.	Not part of this scope of work	Not applicable
5.3.2.9 Para (8)	When in use for boarding or alighting, the ramp shall be secured in use so that it is not subject to displacement when loading or unloading.	Not part of this scope of work	Not applicable

5.3.2.9 Para (9)	A semi-automatic ramp shall be fitted with a device capable of stopping the movement of that step if its front edge comes into contact with anything or person whilst the plate is in movement.	Not part of this scope of work	Not applicable
5.3.2.9 Para (10)	The ramp shall be provided with self-contrasting markings.	Not part of this scope of work	Not applicable
5.3.2.10	**Boarding aids: on-board lifts**		
5.3.2.10 Para (1)	Lifts shall be designed and assessed for an area of use defined by the maximum vertical gap they can overcome.	Not part of this scope of work	Not applicable
5.3.2.10 Para (2)	The lift platform surface shall be slip resistant. At surface level, the lift platform shall have a minimum clear width of 760 mm and a length of 1 200 mm. According to appendix M, an additional length of 50 mm shall be available for feet above a height of 100 mm above the lift platform, considering both inboard and outboard orientations of the wheelchair user.	Not part of this scope of work	Not applicable
5.3.2.10 Para (3)	The bridging plate overriding the gap between the lift platform and the carriage floor shall have a minimum width of 720 mm.	Not part of this scope of work	Not applicable
5.3.2.10 Para (4)	The lift shall withstand a weight of at least 300 kg, placed at the centre of the lift platform distributed over an area of 660 mm by 660 mm.	Not part of this scope of work	Not applicable
5.3.2.10 Para (5)	Where provided, each control for deploying, lowering to ground level, raising and stowing the lift shall require continuous manual pressure and shall not allow an improper lift sequencing when the lift platform is occupied.	Not part of this scope of work	Not applicable
5.3.2.10 Para (6)	The lift shall incorporate a method of deploying, lowering to ground level with a lift occupant, and raising and stowing the empty lift if the power to the lift fails.	Not part of this scope of work	Not applicable
5.3.2.10 Para (7)	No part of the lift platform shall move at a rate exceeding 150 mm/second during lowering and lifting an occupant, and shall not exceed 600 mm/second during deploying or stowing (except if the lift is manually deployed or stowed).	Not part of this scope of work	Not applicable
5.3.2.10 Para (8)	The maximum lift platform horizontal and vertical acceleration when occupied shall be 0,3 g.	Not part of this scope of work	Not applicable
5.3.2.10 Para (9)	The lift platform shall be equipped with barriers to prevent any of the wheels of a wheelchair from rolling off the lift platform during its operation.	Not part of this scope of work	Not applicable
5.3.2.10 Para (10)	A movable barrier or inherent design feature shall prevent a wheelchair from rolling off the edge closest to the vehicle until the lift is in its fully raised position.	Not part of this scope of work	Not applicable
5.3.2.10 Para (11)	Each side of the lift platform which extends beyond the vehicle in its raised position shall have a barrier a minimum 25 mm high. Such barriers shall not interfere with manoeuvring into or out of the aisle.	Not part of this scope of work	Not applicable
5.3.2.10 Para (12)	The loading-edge barrier (outer barrier) which functions as a loading ramp when the lift is at ground level, shall be sufficient when raised or closed, or a supplementary system shall be provided, to prevent a power wheelchair from riding over or defeating it.	Not part of this scope of work	Not applicable
5.3.2.10 Para (13)	The lift shall permit both inboard and outboard orientation of the wheelchair user.	Not part of this scope of work	Not applicable
5.3.2.10 Para (14)	The lift shall be provided with self-contrasting markings.	Not part of this scope of work	Not applicable