



TWIN PLANNING GUIDE

2 CABS, 1 SHAFT, 0 CROWDS

TWIN planning information

Overview

The planning information shown here has been compiled with the utmost care for your planning safety.

However, not all aspects and influences can be addressed, which may result from various requirements and specific conditions of your project. So that the TWIN® system can attain its full potential, we kindly request that you **establish contact with our experienced planning experts at an early stage.**

- The system is ideal if the building has **two access levels**, as the elevator cars can be loaded simultaneously and independently of each other in this case. If this is not possible, the lower elevator car can be parked in a **lower alternative landing.**

Then the upper elevator car can also approach the lowest access landing. The pit depth is enlarged accordingly. Additionally, an upper alternative landing can also be set up in the hoistway overhead. Details are available upon request.

- We recommend combining the TWIN system **with at least one single lift** that can approach all floors continuously from the lowest to the top landings.
- In addition to the car dimensions described in this documentation, different dimensions such as the dimensions according to the ISO standard can also be realized with TWIN. We are happy to supply corresponding planning information upon request.

Additional points to be observed

This documentation always depicts one group of lifts with two TWIN systems and thus a total of four

elevator cars.

TWIN can also be used in a group with several conventional elevators or other TWIN systems.

If required, air pressure openings in the hoistway walls should be planned in the lower, middle and upper area of the hoistway. These air pressure openings can reduce or prevent air pressure differences and wind noises due to the fast elevator cars in the hoistways. Dimensions and design are determined, depending on the cross section ratios of the elevator car to the hoistway and the speeds of the elevators.

During the planning phase, please consider all applicable regulations stipulated by the relevant notified authority and all applicable national regulations. Our planning experts would be glad to provide information or explanations on these issues.

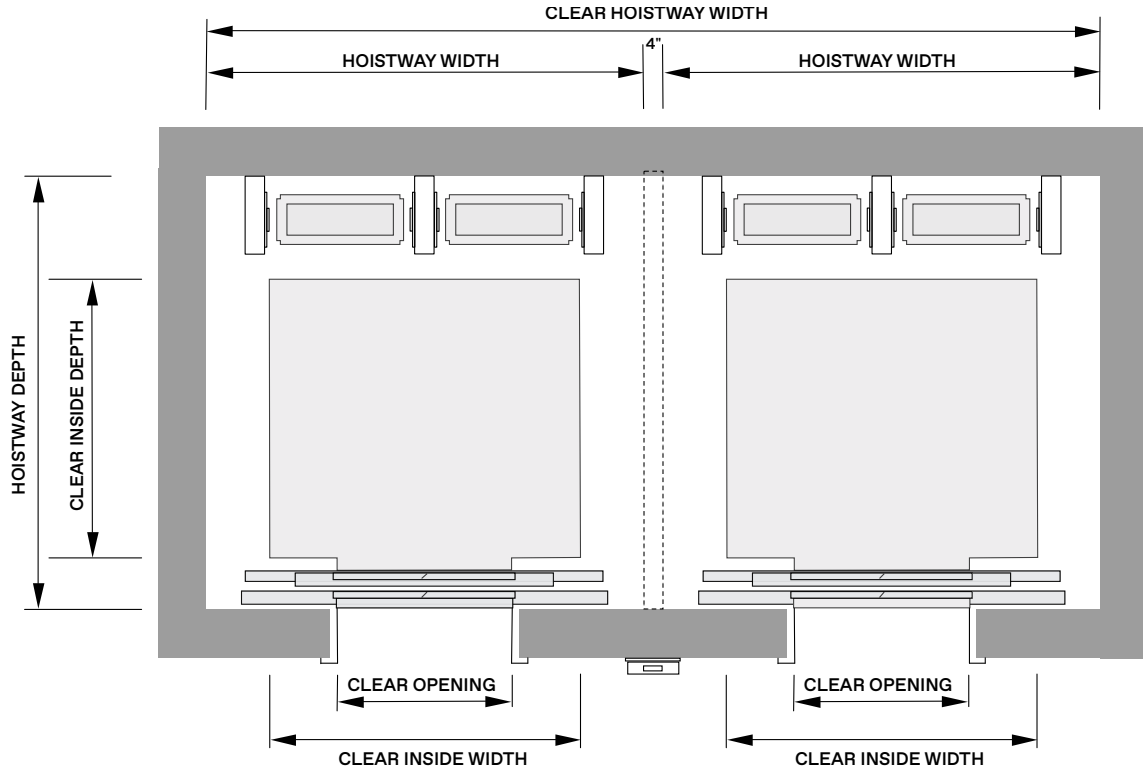
Standard Planning Information*

Rated load	2500 / 3000 / 3500 / 4000 lbs per elevator car
Number of passengers	19 / 22 / 26 / 28 per elevator car
Speeds	800 fpm (upper elevator car) / 500 fpm (lower elevator car) 1200 fpm (upper elevator car) / 800 fpm (lower elevator car)
Travel height	500 ft
Floor-to-floor distance	20'-10" minimum between the two lowest landings (depends on car height with linear door operator) 20'-10" minimum between the two lowest landings (depends on car height with harmonic door operator) 8'-3" minimum between the other landings (depends on door height)
Doors	Central-opening, two-panel doors, door width 3'-6" std., door height 7'-0"
Car design	Basic design as well as customer-specific requests possible
Designation selection control	Operation via input terminals with touch screen and user-friendly graphic user interface or 10-key keyboard input terminals with wall fastening outside elevator cars Floor display and verbal announcement in the elevator car
Elevator control system	TAC32T
Painting of the technology	Components for every TWIN elevator in the hoistway and in the machine room are painted in a different color and are thus clearly recognizable (color-blindness taken into consideration)

*If your project requires variances in these standards, please contact one of our TWIN experts.

Hoistway Layout

Plan view for all TWIN standard arrangements



Hoistway dimensions for center-opening door (standard types)

Rated load per elevator car		2500 lbs	3000 lbs	3500 lbs	4000 lbs
Clear hoistway width (wall-to-wall)	[ft.-in.]	19'-0"	19'-0"	19'-0"	21'-0"
Hoistway width	[ft.-in.]	9'-4"	9'-4"	9'-4"	10'-4"
Hoistway depth	[ft.-in.]	7'-8"	8'-2"	8'-10"	8'-10"
Number of passengers	Per elevator car	19	22	26	28
Inside clear width	[ft.-in.]	6'-8"	6'-8"	6'-8"	7'-8"
Inside clear depth	[ft.-in.]	4'-3"	4'-9"	5'-5"	5'-5"
Door width	[ft.-in.]	3'-6"	3'-6"	3'-6"	3'-6"/4'-0"
Dual entrance (front-and-rear)		No	No	No	No

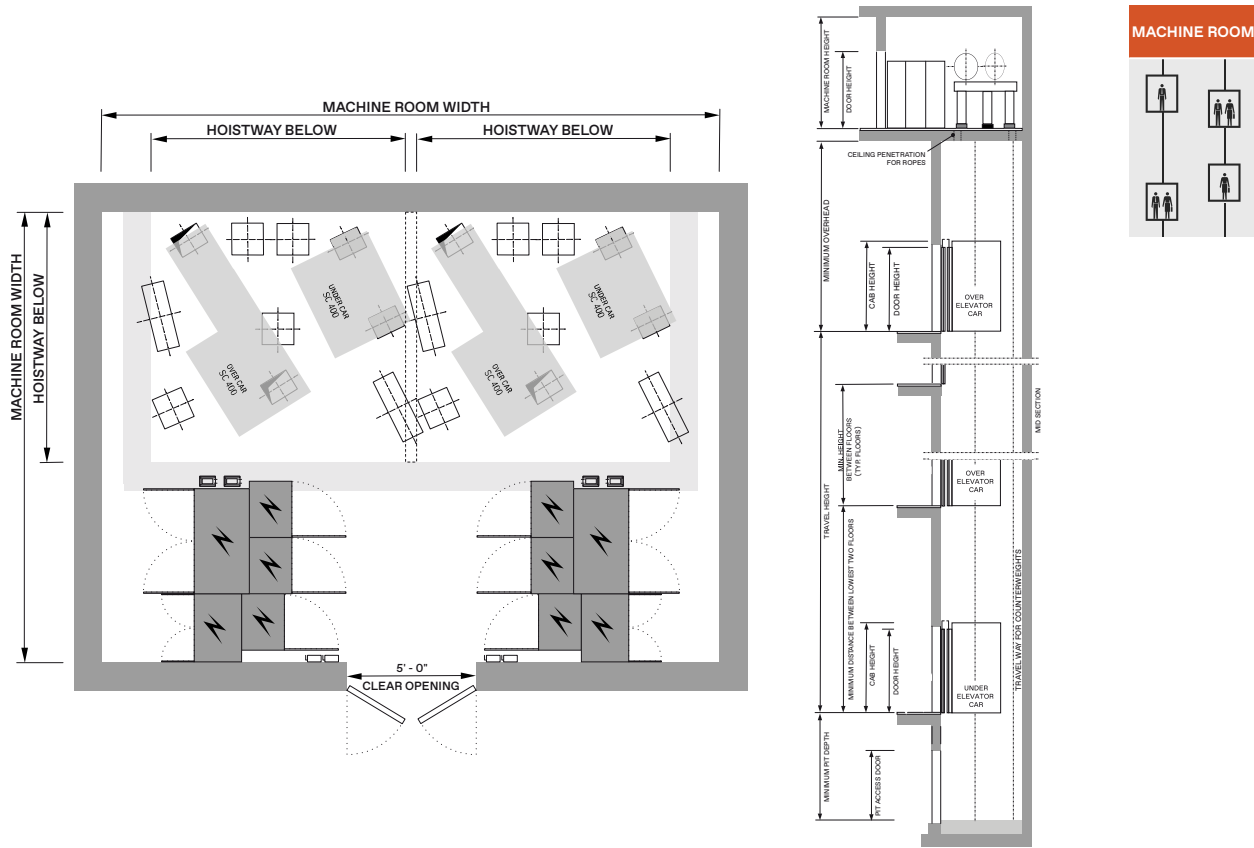
For a flooring material thickness in the elevator car of 1.5".

The hoistway layouts are shown as a group of two for the preferred types of the TWIN system with a total of four elevator cars.

All details are based on the standard types of the TWIN systems. For deviating performance data (e.g. rated load, travel height, speed, heavy car equipment, etc.) contact your TWIN expert.

TWIN at 800 fpm / 500 fpm

Single-level machine room and hoistway section



Hoistway dimensions

Rated load per elevator car		2500 lbs	3000 lbs	3500 lbs	4000 lbs
Speed (over elevator car)	[fpm]	800'-0"	800'-0"	800'-0"	800'-0"
Speed (under elevator car)	[fpm]	500'-0"	500'-0"	500'-0"	500'-0"
Machine room width	[ft.-in.]	23'-0"	23'-0"	23'-0"	25'-0"
Machine room depth	[ft.-in.]	17'-8"	18'-2"	18'-10"	18'-10"
Machine room height	[ft.-in.]	8'-6"	8'-6"	8'-6"	8'-6"
Min. overhead	[ft.-in.]	18'-7"	18'-7"	18'-7"	18'-7"
Max travel height	[ft.-in.]	500'-0"	500'-0"	500'-0"	500'-0"
Pit depth	[ft.-in.]	13'-0"	13'-0"	13'-0"	13'-0"
Min. height between floors (typical)	[ft.-in.]	8'-3"	8'-3"	8'-3"	8'-3"
Min. height between lowest two floors ¹	[ft.-in.]	19'-11¼ "	19'-11¼ "	19'-11¼ "	19'-11¼ "
Cab height (clear inside) ²	[ft.-in.]	7'-4"	7'-4"	7'-4"	7'-4"
Door height ³	[ft.-in.]	7'-0"	7'-0"	7'-0"	7'-0"

All details are based on the preferred types of the TWIN systems. For deviating performance data (e.g., rated load, travel height, speed, heavy car equipment, etc.) contact your TWIN expert.

The precise location of the components in the machine room, the ceiling opening, rope fixing points and the wall openings varies depending on the rated load. The precise dimensions can be taken from the project planning drawings which are available upon request.

¹ Based on linear door operator. If shorter distance is required, contact your local branch office.

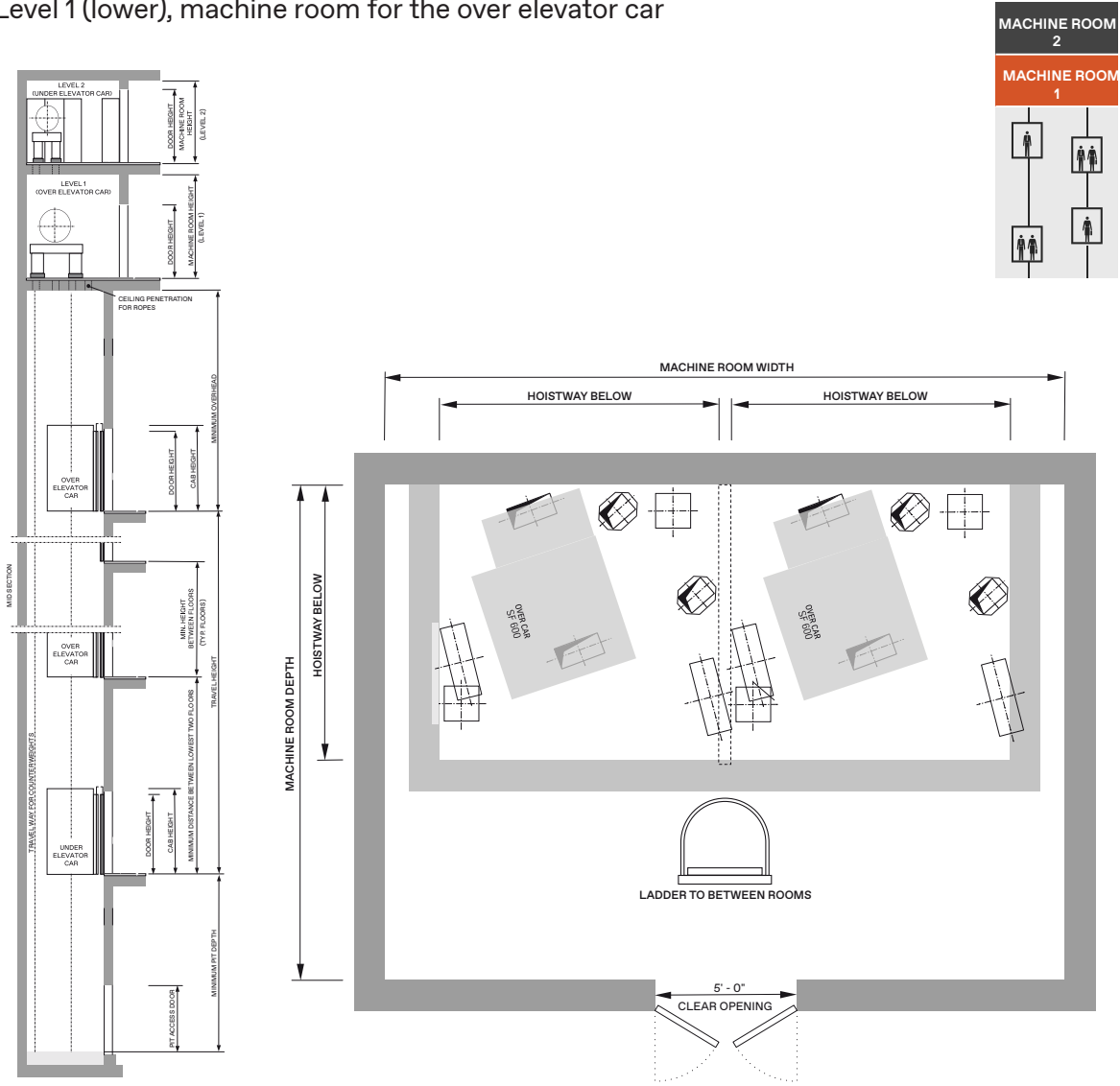
² Other heights available; an increase will require overhead to increase.

³ Other heights available; an increase in height will require distance between floors to increase.

TWIN at 1200 fpm / 800 fpm

Hoistway section and machine room level 1

Level 1 (lower), machine room for the over elevator car



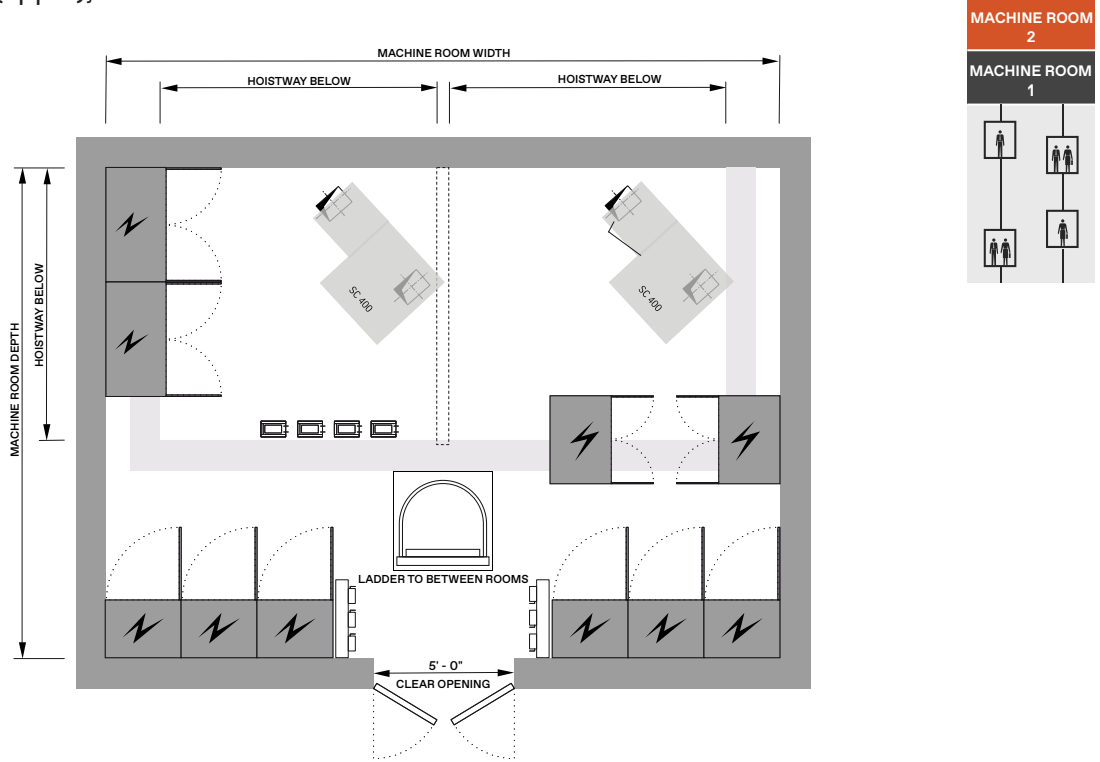
All details are based on the standard types of the TWIN systems. For deviating performance data (e.g., rated load, travel height, speed, heavy car equipment, etc.) obtain the corresponding values upon request.

The precise location of the components in the machine room, the ceiling opening and rope fixing points and the wall openings varies depending on the rated load. The precise dimensions can be taken from the project planning drawings which are available upon request.

TWIN at 1200 fpm / 800 fpm (cont.)

Machine room floor 2

Level 2 (upper), machine room for the under elevator car



Hoistway dimensions

Rated load per elevator car		2500 lbs	3000 lbs	3500 lbs	4000 lbs
Speed (over elevator car)	[fpm]	1200'-0"	1200'-0"	1200'-0"	1200'-0"
Speed (under elevator car)	[fpm]	800'-0"	800'-0"	800'-0"	800'-0"
Machine room width (level 1 and 2)	[ft.-in.]	22'-6"	22'-6"	22'-6"	24'-6"
Machine room depth (level 1 and 2)	[ft.-in.]	16'-0"	16'-6"	17'-2"	17'-2"
Machine room height (level 1)	[ft.-in.]	10'-2"	10'-2"	10'-2"	10'-2"
Machine room height (level 2)	[ft.-in.]	8'-6"	8'-6"	8'-6"	8'-6"
Min. overhead	[ft.-in.]	19'-11"	19'-11"	19'-11"	19'-11"
Max travel height	[ft.-in.]	500'-0"	500'-0"	500'-0"	500'-0"
Pit depth	[ft.-in.]	15'-1"	15'-1"	15'-1"	15'-1"
Min. height between floors (typical)	[ft.-in.]	8'-3"	8'-3"	8'-3"	8'-3"
Min. height between lowest two floors ¹	[ft.-in.]	20'-9 ⁵ / ₈ "	20'-9 ⁵ / ₈ "	20'-9 ⁵ / ₈ "	20'-9 ⁵ / ₈ "
Cab height (clear inside) ²	[ft.-in.]	7'-4"	7'-4"	7'-4"	7'-4"
Door height ³	[ft.-in.]	7'-0"	7'-0"	7'-0"	7'-0"

All details are based on the preferred types of the TWIN systems. For deviating performance data (e.g., rated load, travel height, speed, heavy car equipment, etc.) obtain the corresponding values upon request.

The precise location of the components in the machine room, the ceiling opening and rope fixing points and the wall openings varies depending on the rated load. The precise dimensions can be taken from the project planning drawings which are available upon request.

¹ Based on harmonic door operator. If shorter distance is required, contact your local branch office.

² Other heights available; an increase will require overhead to increase.

³ Other heights available; an increase in height will require distance between floors to increase.

Electrical data

Drives and electrical connections

Rated load per elevator car			2500 lbs		3000 lbs	
Speed	Upper elevator car	[fpm]	800	1200	800	1200
	Lower elevator car	[fpm]	500	800	500	800
Synchronous gearless drive, type	Upper elevator car		SC 400	SF 600	SC 400	SF 600
	Lower elevator car		SC 400	SC 400	SC 400	SC 400
Frequency control (VVVF), type	Upper elevator car		CPI 310 R	CPI 310 R	CPI 310 R	CPI 310 R
	Lower elevator car		CPI 155 R	CPI 310 R	CPI 155 R	CPI 155 R
Energy recovery			Yes	Yes	Yes	Yes
Max. number of trips per hour			240		240	
Line power maximum ^{1,2}	Upper elevator car	[kVA]	157	116	158	126
	Lower elevator car	[kVA]	97	157	97	158
Line current rms ^{1,2}	Upper elevator car	[A]	50	51	57	82
	Lower elevator car	[A]	33	50	38	57
Line current maximum ^{1,3}	Upper elevator car	[A]	199	148	199	159
	Lower elevator car	[A]	123	199	124	199

Rated load per elevator car			3500 lbs		4000 lbs	
Speed	Upper elevator car	[fpm]	800	1200	800	1200
	Lower elevator car	[fpm]	500	800	500	800
Synchronous gearless drive, type	Upper elevator car		SC 400	SF 600	SC 400	SF 600
	Lower elevator car		SC 400	SC 400	SC 400	SC 400
Frequency control (VVVF), type	Upper elevator car		CPI 310 R	CPI 310 R	CPI 310 R	CPI 310 R
	Lower elevator car		CPI 155 R	CPI 310 R	CPI 155 R	CPI 310 R
Energy recovery			Yes	Yes	Yes	Yes
Max. number of trips per hour			240		240	
Line power maximum ^{1,2}	Upper elevator car	[kVA]	158	134	159	141
	Lower elevator car	[kVA]	98	158	98	159
Line current rms ^{1,2}	Upper elevator car	[A]	65	94	73	105
	Lower elevator car	[A]	43	65	48	73
Line current maximum ^{1,3}	Upper elevator car	[A]	201	171	201	180
	Lower elevator car	[A]	124	201	124	201

¹ At 480 volt/60 Hz.

² The specified powers and currents increase depending on the project by the elevator control units, the number of landings, the number and versions of the touch screens in the landings, the car lighting and additional electrical power consumers such as air-conditioning systems and flat screens in the cars, etc.

All details are based on the standard types of the TWIN systems. For deviating performance data (e.g., rated load, travel height, speed, heavy car equipment, etc.) obtain the corresponding values upon request.



Synchronous gearless SC 400

- Compact, gearless drive
- Permanently excited synchronous machine
- Optimal efficiency
- Low sound pressure level
- Dual circuit disc brake, certified i.a.w. EN 81 as safety brake



Synchronous gearless SF 600

- Gearless high-performance drive
- Permanently excited synchronous machine
- Optimal efficiency
- Low sound pressure level
- Suitable for multi-converter operation for economical drive configuration
- Very high permissible axle loads and braking torques

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