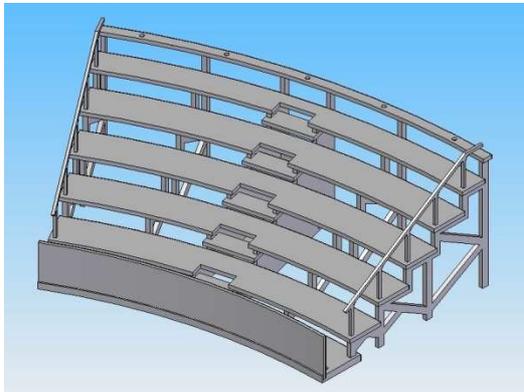




The grandstands are available for straights and the curves K1 to K4, with and without shoulder.



Grandstand K1/6 = for curve 1 / 6 rows consisting of:  
 - 1 x path behind the perimeter board  
 - 5 rows of seats  
 - 1 upper railing with holes for e.g. flags

Each grandstand consists of a path behind the perimeter board and a different number of rows of seats.

For each bend there are grandstands with 4, 6, 8, 10, 12 and 16 rows.

1 row is 2.5 cm deep.

A grandstand with 8 rows is therefore 20.0 cm deep. This corresponds to the Carrera track width for the scales 1:32 and 1:24.

A grandstand with 4 rows is 10,0 cm deep and therefore as wide as a shoulder.

Our grandstands can be lined up in any order.

The radius of the curves is not important.

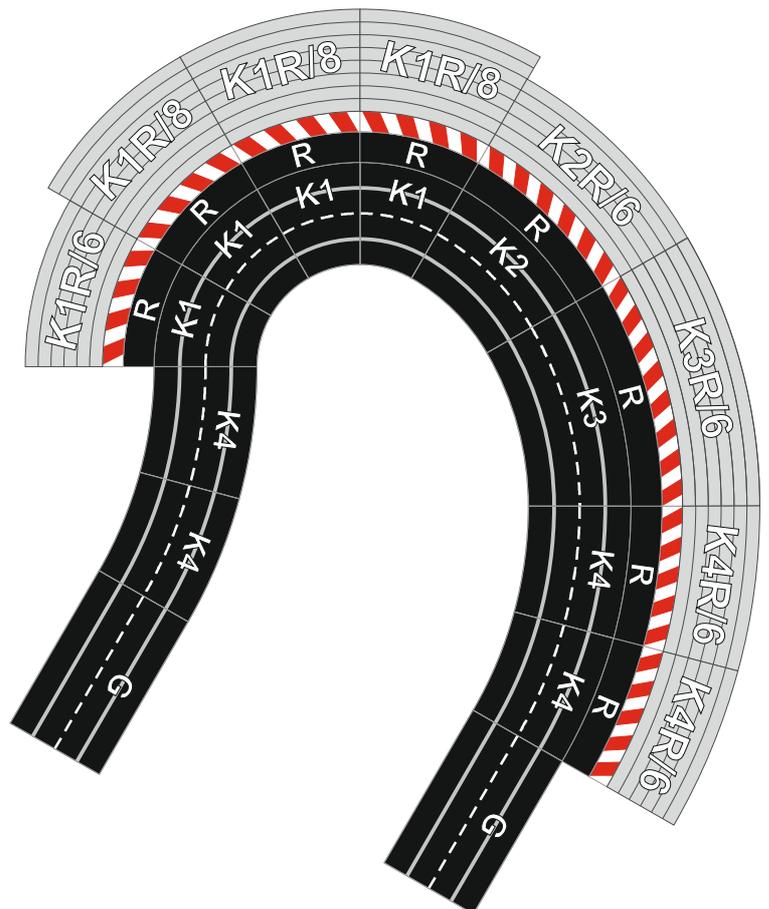
The track is interesting to drive on, no matter from which direction you enter the Motodrom.

I have used smaller grandstands for the example. But you can also use grandstands with 16 seats for a really big Motodrom.

### But be careful:

The smallest grandstand K1/4 is about 250 cm wide and 10 cm deep at the uppermost seating area.

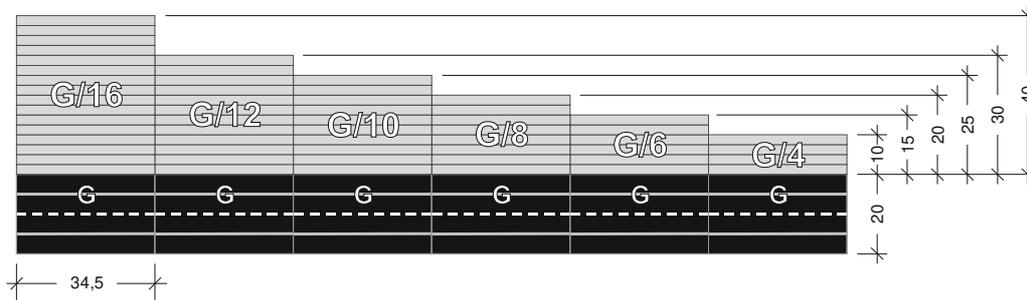
The biggest grandstand K3R/16 is 670 cm wide and 40 cm deep.



Overview of available grandstand kits:

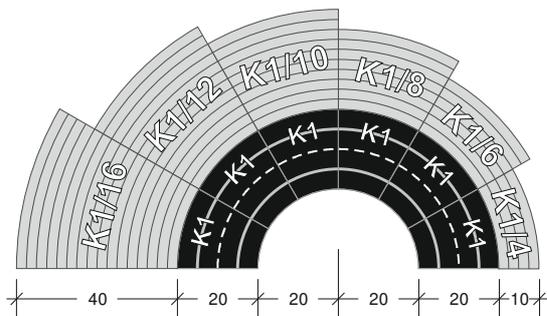
						
						
						
						
						
						
						
						
						

**Grandstand kits for straight lines:**



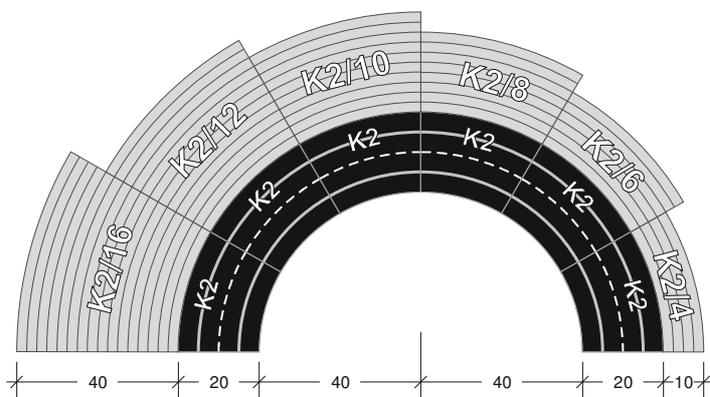
**Curve 1 without shoulders:**

Curve radius 30° / Inner radius grandstand 40 cm



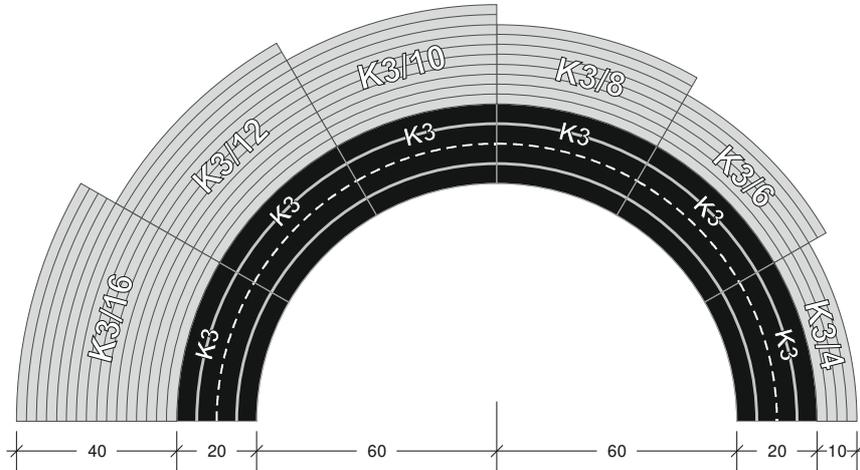
**Curve 2 without shoulders:**

Curve radius 30° / Inner radius grandstand 60 cm



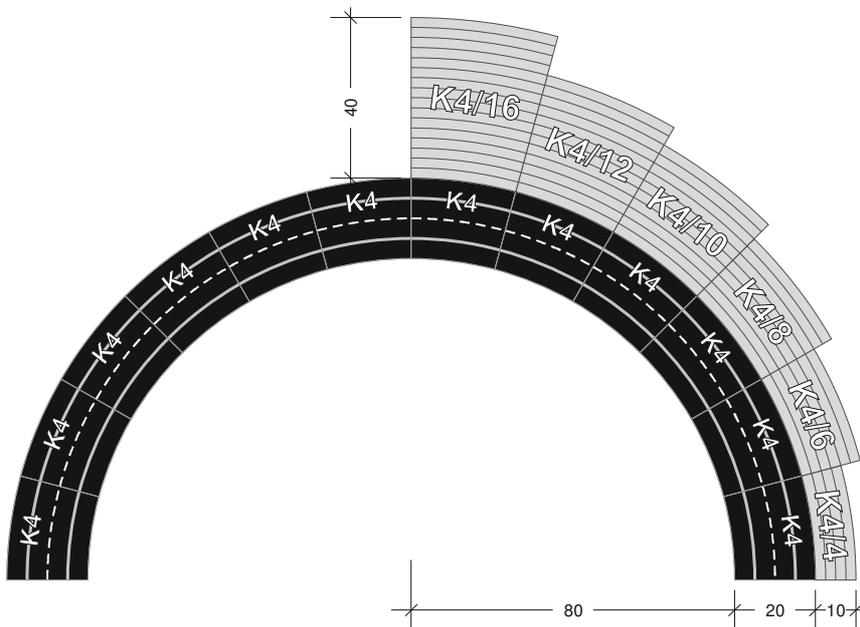
**Curve 3 without shoulders:**

Curve radius 30° / Inner radius grandstand 80 cm



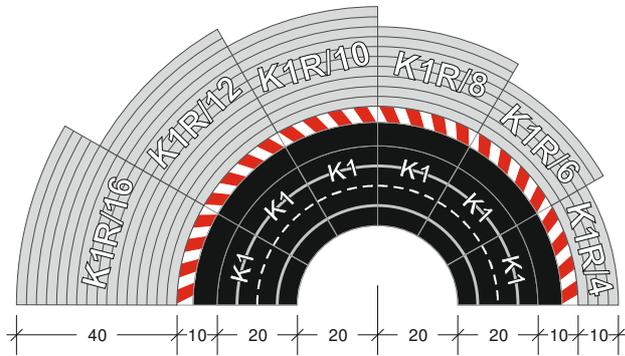
**Curve 4 without shoulders:**

Curve radius 15° / Inner radius grandstand 100 cm



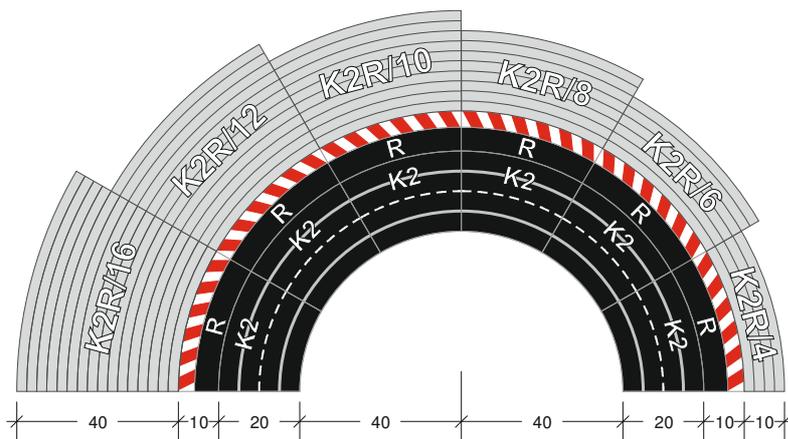
**Curve 1 with shoulders:**

Curve radius 30° / Inner radius grandstand 50 cm



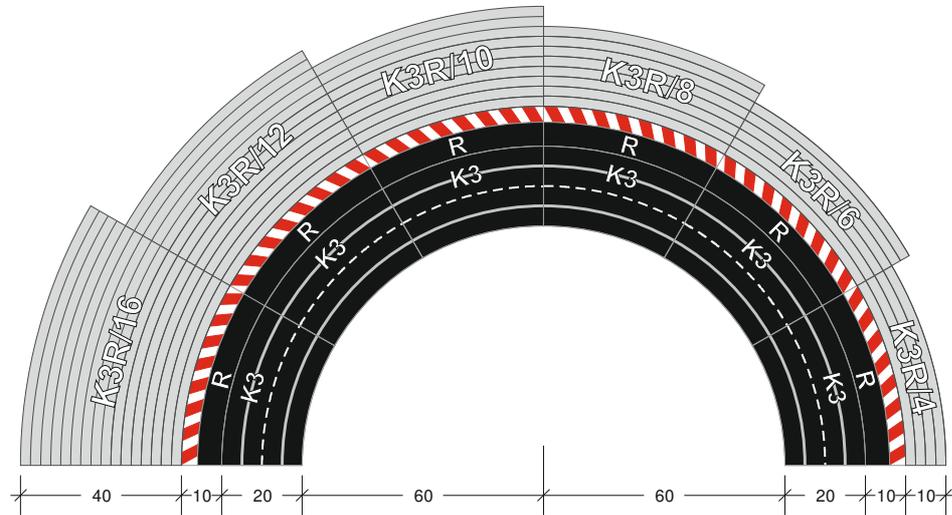
**Curve 2 with shoulders:**

Curve radius 30° / Inner radius grandstand 70 cm



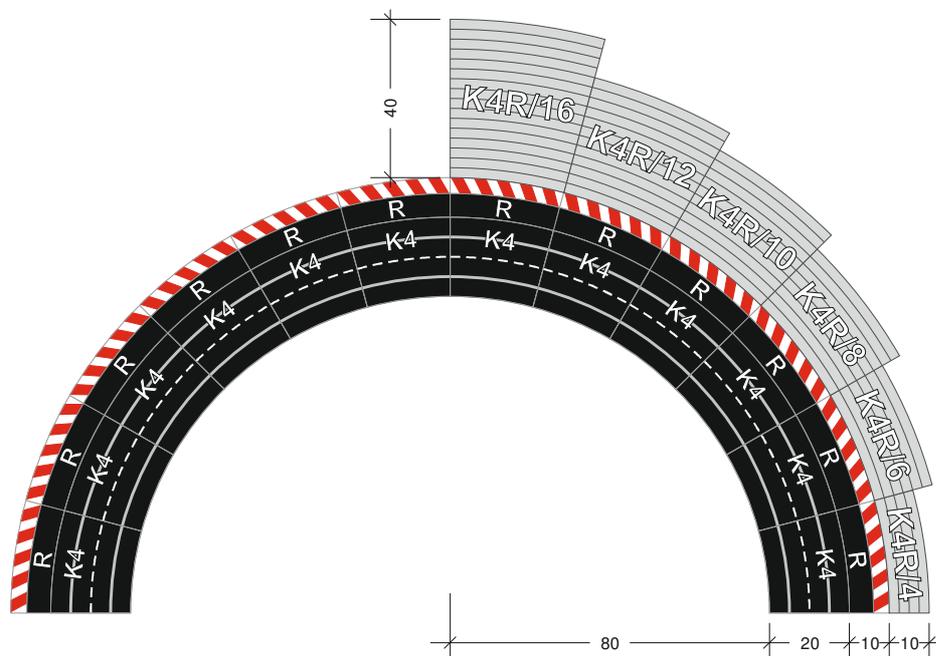
**Curve 3 with shoulders:**

Curve radius 30° / Inner radius grandstand 90 cm



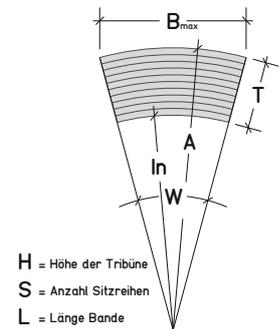
**Curve 4 with shoulders:**

Curve radius 15° / Inner radius grandstand 110 cm



All dimensions:

		K1	K1R	K2	K2R	K3	K3R	K4	K4R	
4 Reihen	W	Kurvenwinkel	30°	30°	30°	30°	30°	15°	15°	
	h	Innenradius	40,0	50,0	60,0	70,0	80,0	90,0	100,0	110,0
	A	Aussenradius	50,0	60,0	70,0	80,0	90,0	100,0	110,0	120,0
	T	Tiefe	10,0	10,0	10,0	10,0	10,0	10,0	10,0	10,0
	B <sub>max</sub>	max. Breite	25,7	30,8	35,9	41,0	46,2	51,3	28,5	29,7
	H	Höhe *	6,9	6,9	6,9	6,9	6,9	6,9	6,9	6,9
	S	Anzahl Sitzreihen	3	3	3	3	3	3	3	3
	L	Länge Bande	20,8	26,0	31,2	36,3	41,5	46,7	25,9	28,5
	6 Reihen	W	Kurvenwinkel	30°	30°	30°	30°	30°	15°	15°
h		Innenradius	40,0	50,0	60,0	70,0	80,0	90,0	100,0	110,0
A		Aussenradius	55,0	65,0	75,0	85,0	95,0	105,0	115,0	125,0
T		Tiefe	15,0	15,0	15,0	15,0	15,0	15,0	15,0	15,0
B <sub>max</sub>		max. Breite	28,2	33,4	38,5	43,6	48,7	53,9	29,7	31,0
H		Höhe *	10,1	10,1	10,1	10,1	10,1	10,1	10,1	10,1
S		Anzahl Sitzreihen	5	5	5	5	5	5	5	5
L		Länge Bande	20,8	26,0	31,2	36,3	41,5	46,7	25,9	28,5
8 Reihen		W	Kurvenwinkel	30°	30°	30°	30°	30°	15°	15°
	h	Innenradius	40,0	50,0	60,0	70,0	80,0	90,0	100,0	110,0
	A	Aussenradius	60,0	70,0	80,0	90,0	100,0	110,0	120,0	130,0
	T	Tiefe	20,0	20,0	20,0	20,0	20,0	20,0	20,0	20,0
	B <sub>max</sub>	max. Breite	30,8	35,9	41,0	46,2	51,3	56,4	31,0	32,3
	H	Höhe *	13,3	13,3	13,3	13,3	13,3	13,3	13,3	13,3
	S	Anzahl Sitzreihen	7	7	7	7	7	7	7	7
	L	Länge Bande	20,8	26,0	31,2	36,3	41,5	46,7	25,9	28,5
	10 Reihen	W	Kurvenwinkel	30°	30°	30°	30°	30°	15°	15°
h		Innenradius	40,0	50,0	60,0	70,0	80,0	90,0	100,0	110,0
A		Aussenradius	65,0	75,0	85,0	95,0	105,0	115,0	125,0	135,0
T		Tiefe	25,0	25,0	25,0	25,0	25,0	25,0	25,0	25,0
B <sub>max</sub>		max. Breite	33,4	38,5	43,6	48,7	53,9	59,0	32,3	33,6
H		Höhe *	16,5	16,5	16,5	16,5	16,5	16,5	16,5	16,5
S		Anzahl Sitzreihen	9	9	9	9	9	9	9	9
L		Länge Bande	20,8	26,0	31,2	36,3	41,5	46,7	25,9	28,5
12 Reihen		W	Kurvenwinkel	30°	30°	30°	30°	30°	15°	15°
	h	Innenradius	40,0	50,0	60,0	70,0	80,0	90,0	100,0	110,0
	A	Aussenradius	70,0	80,0	90,0	100,0	110,0	120,0	130,0	140,0
	T	Tiefe	30,0	30,0	30,0	30,0	30,0	30,0	30,0	30,0
	B <sub>max</sub>	max. Breite	35,9	41,0	46,2	51,3	56,4	61,5	33,6	34,9
	H	Höhe *	19,7	19,7	19,7	19,7	19,7	19,7	19,7	19,7
	S	Anzahl Sitzreihen	11	11	11	11	11	11	11	11
	L	Länge Bande	20,8	26,0	31,2	36,3	41,5	46,7	25,9	28,5
	16 Reihen	W	Kurvenwinkel	30°	30°	30°	30°	30°	15°	15°
h		Innenradius	40,0	50,0	60,0	70,0	80,0	90,0	100,0	110,0
A		Aussenradius	80,0	90,0	100,0	110,0	120,0	130,0	140,0	150,0
T		Tiefe	40,0	40,0	40,0	40,0	40,0	40,0	40,0	40,0
B <sub>max</sub>		max. Breite	41,0	46,2	51,3	56,4	61,5	66,7	36,2	38,8
H		Höhe *	26,1	26,1	26,1	26,1	26,1	26,1	26,1	26,1
S		Anzahl Sitzreihen	15	15	15	15	15	15	15	15
L		Länge Bande	20,8	26,0	31,2	36,3	41,5	46,7	25,9	28,5



H = Höhe der Tribüne  
 S = Anzahl Sitzreihen  
 L = Länge Bande

\* Höhe ohne Seitengeländer  
 alle Maße in cm

## Scale and figures:

The scale is always a problem. Carrera has gone for the 1:32 scale for its buildings, pit lanes, grandstands ....

I wanted a compromise. Therefore, before the extensive CAD work, there were some seat samples with different seat heights.



16 mm are optimal for all kinds of figures from Carrera, Preiser, Frömter, Herpa and a supplier of raw figures in EBAY (China).



Frömter: Suitable for 1:32 and 1:24, unfortunately only available used



Carrera: suitable for 1:32



Preiser: more suitable for 1:32 but very expensive and little choice



Different Ebay sellers: very cheap, must be painted suitable for 1:32 and 1:24

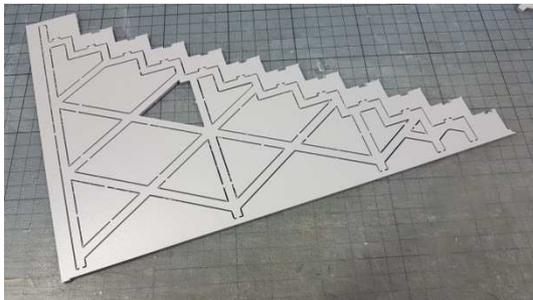
The Edelhirsch grandstand system is intended for drivers of both scales. The small grandstands are more likely to be found on home tracks, the large ones are especially suitable for club facilities.

## Material and processing:

The individual parts of the grandstands are milled from PVC rigid foam panels on a CNC milling machine.

If you are interested, the data sheet for the material can be found in the download area.

The parts are partly in a carrier and must be cut out and reworked. A cutter knife and possibly a sheet of sandpaper is sufficient for this.



How some parts are delivered



Way plate behind the perimeter board

PVC rigid foam sheets require a special adhesive:



**Tangit PVC-U:** Drying time approx 1 to 3 min, welds the parts. My recommendation, but not so easy to handle. If glue overflows, it leaves traces.

**UHU Allplast:** Drying time approx 1 min, easy to apply. Glue pulls threads.

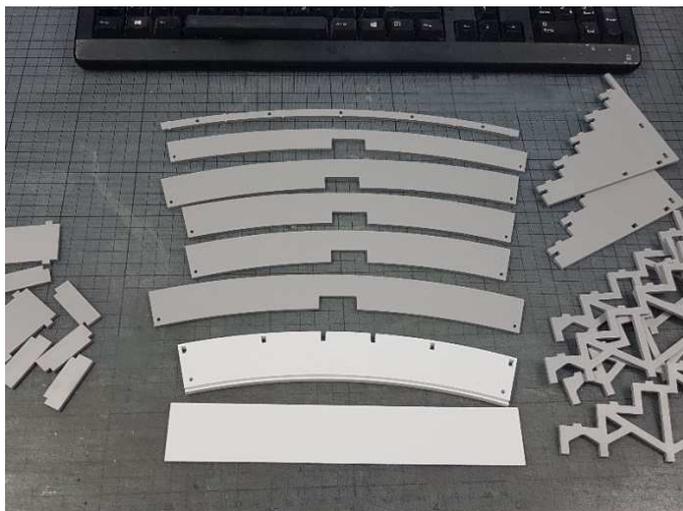
**Tangit PVC-U:** Drying time < 1 min. Quick and easy bonding. Capillary action, i.e. the adhesive is drawn into gaps (not with gel). I have no long-term experience with the adhesive, but I assume that it will last.

## How to build a grandstand:

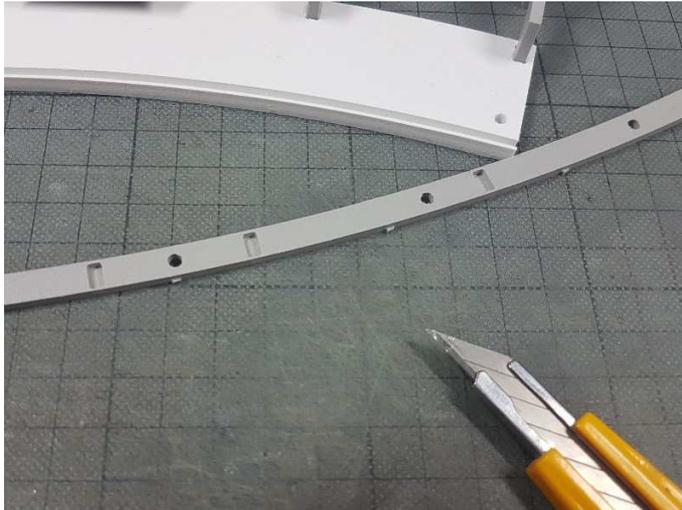
Here I show the assembly of a grandstand using a K1-06, i.e. for curve 1 with 6 rows. The assembly of a small grandstand does not differ from that of a really big grandstand.



This is how the kit arrives, of course packed in a stable shipping box.



Each kit consists of a walkway behind the perimeter board, several rows of seats, an upper bench with railing, the staircase, braces, stiffeners, steps and the perimeter board.

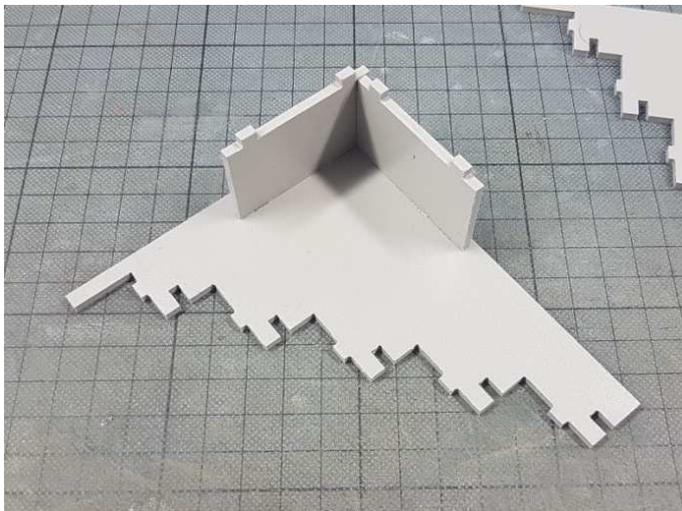


Some parts are held in the plate by small bars during milling.

These bars must be removed.

This is easiest to do with a sharp cutter knife.

Simply place the piece on a board or cutting mat and cut along the edge with a cutter knife.



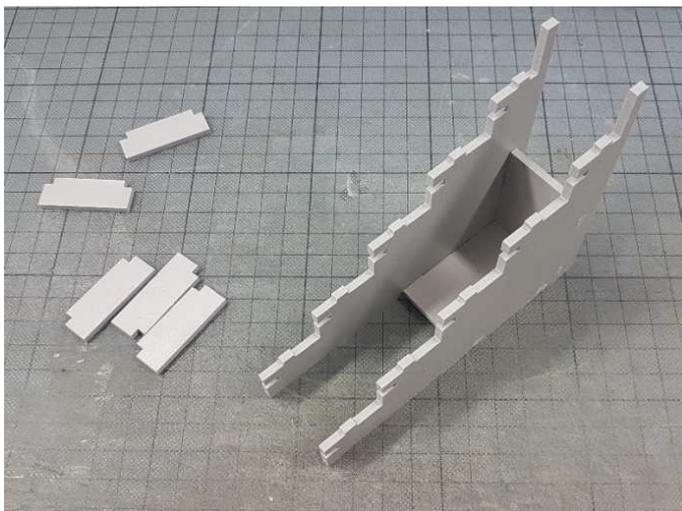
Start with the "staircase".

The stiffeners are glued in as shown.

The glued joints must always harden! Only then is a good result guaranteed.

With the suggested adhesives this takes about 1 minute, then the glued joint is already somewhat resilient.

After 10 minutes the adhesive is 99% cured.



Glue the 2nd side to the stiffeners. This can also be erected for this purpose.

The 90° angle should adjust itself automatically, but can be checked with a geo triangle to be on the safe side.

And again important: please let cure!



The steps are glued in.

The order does not matter, but I have found that it is easier to start in the middle and then continue up and down.

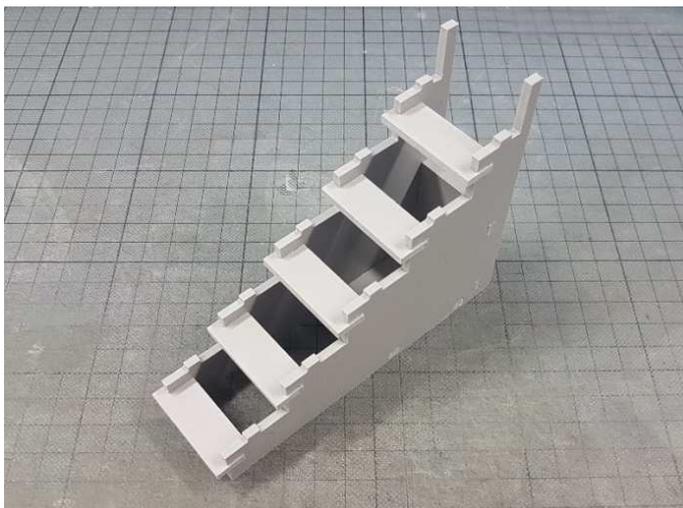


### A note on gluing!

If you hold the glue tube vertically with the tip pointing down, too much glue will always come out.

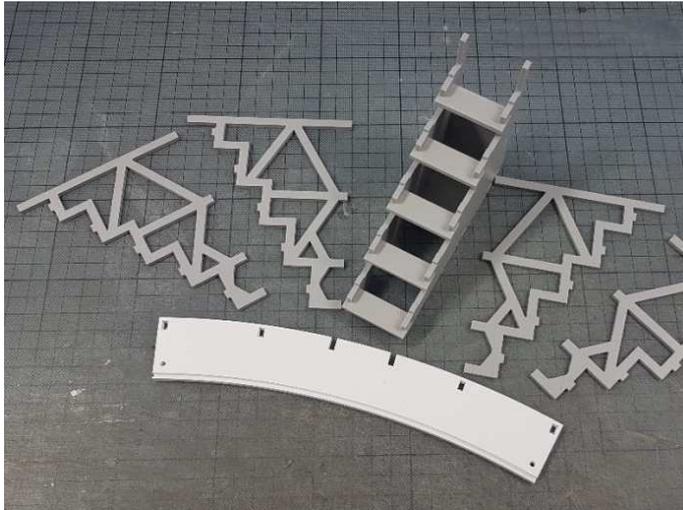
The adhesive should be applied sparingly.

Simply hold the tube vertically with the tip pointing upwards. This way the adhesive can be easily dispensed.



This is what a finished staircase looks like.

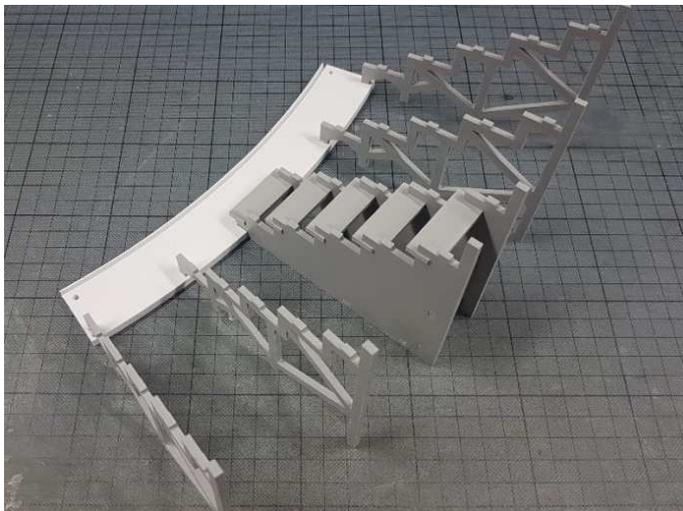
For a 6-seater grandstand it is 15 cm deep. A 16-seater grandstand has a depth of 40 cm.



The parts for the next step.

The staircase, the footpath behind the gangway and 4 strut elements.

Even the really large grandstands have this structure. They only differ in the number of seating rows and the size of the individual parts.



The basic framework is in place.

A small drop of glue is enough.

Tangit or UHU Allplast fuse the plastic parts together.

This is a compound which is very stable after complete curing.



All rows of seats have small pockets on the underside, which snap into a knob on the staircase or struts.



To avoid mistakes you should sort the seat rows according to size.

If a bench is glued upside down, it can still be loosened by force during the first 5 minutes.

Later this is no longer possible without damage.



The seat rows are glued on starting from the bottom.

On this picture you can see quite well 2 holes in the footpath.

With 2 screws the grandstand can be screwed to the ground.



Here again the tip to apply the glue with the tip of the tube upwards.

Overflowing glue should be left to dry and later removed with a cutter knife.

If the adhesive is smudged on the surface, unsightly marks will appear.



Here you can see, on the cutting mat the penultimate bench with a depth of 25 mm.

The last, i.e. the topmost bench in each stand consists of a narrower bench and a "railing".

The narrower bench + railing also have a depth of 25 mm.



The grandstand is almost finished.

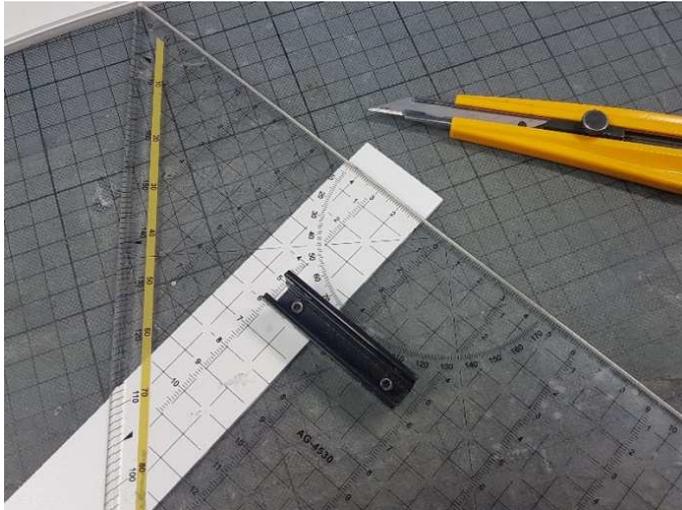


The board is pushed into the slot on the footpath.

With some kits the perimeter board is approx. 10 mm longer than required.

This was intentional, I wanted to make sure that there was no gap when grandstands were lined up.

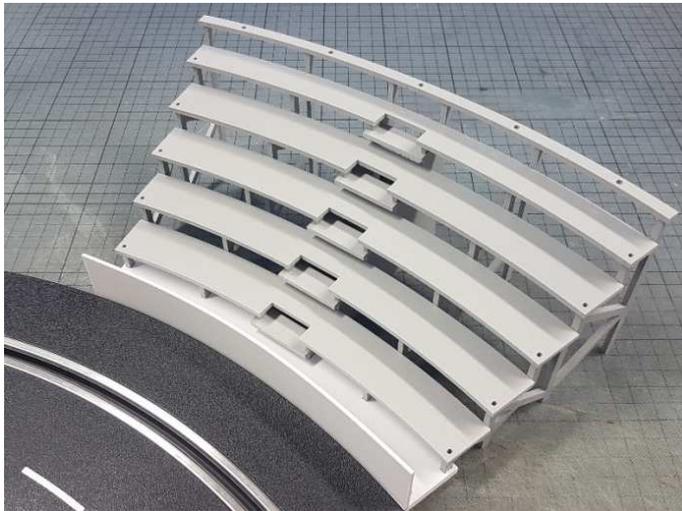
In newer kits the band is delivered flush.



The overhang of the band must be cut off at right angles with a cutter knife.

Cutting should be done more often for rigid foam panels. With the first cut you only cut a little into the panel. The following cuts can even be made "freehand". The knife is guided in the first cut.

To be flexible with the perimeter advertising, I do not glue the perimeter.



The grandstand is so far finished.

Side railings are included in the kit.

On request we can also supply a continuous band with a length of 100 cm. This then runs over several grandstands and is therefore also more stable than individual pieces of boards.

## Perimeter advertising:

Our perimeter advertising stickers are 3,2 cm high and 135 cm long.



The band stickers are produced in latex printing process.

Latex printing is environmentally friendly and intended for outdoor advertising media. This also means that the stickers are lightfast and last forever.

The surface is velvety matt, just as it should be. No glossy solvent print.

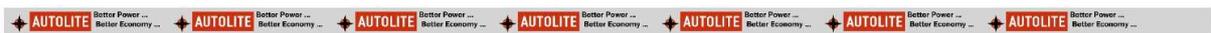
The white border on the "Shell" sticker on the left side of the picture is the layer on which the sticker is placed. All stickers are borderless.

Latex stickers can be processed very easily.

With such long stickers you should be in pairs, this simplifies things considerably.

When the sticker is applied, it does not stick immediately, so it can be repositioned. Only when it is pressed on does it stick. Even then, it can be removed and repositioned. Finally you can remove the surface with a squeegee or a credit card. Possible air bubbles can be pressed away completely with the finger. To do this, it is not necessary to push the air bubble to the edge of the sticker piece by piece with your finger ... or even puncture it. A great material.

At the moment I have 45 motifs in my programme. Among them are historical motifs from the 60s Le Mans period. Also the current motives are not neglected. The assortment is constantly extended.





# The Edelhirsch grandstand system





## Information on the Carrera track system:

The Carrera tracks are the most common system in our country. The rails are the smoothest, widest and hardest rails on the market. This was true until the introduction of the Harrel tracks. But I can say little about Harrel, I lack the experience.

The Carrera tracks are used in many slot racing clubs in Germany. The accuracy of fit at the transitions comes close to a wooden track.

All tracks and curves are 19.8 cm wide. Single-track rails and shoulders have a width of 9.9 cm.

These dimensions are also the basis for our grandstand system. In my tables, a web width of 20 cm and a border strip width of 10 cm is used for calculation. The radii are also given in 10 cm steps. These measurements are also used for track planning and are generally accepted.

Straights are available in the lengths:

Standard 34,5 cm, 1/3 Straight 11,5 cm, 1/4 Straight 8,6 cm.

	Inner radius	Radius inner slot	Radius outer slot	Outer radius
K1	19,8 cm	24,75 cm	34,65 cm	39,6 cm
K2	39,6 cm	44,55 cm	54,45 cm	59,4 cm
K3	59,4 cm	64,35 cm	74,25 cm	79,2 cm
K4	79,2 cm	84,15 cm	94,05 cm	99,0 cm

Curves are available in the following angles:

Curve 1: 30° und 60°

Curve 2: 30°

Curve 3: 30°

Curve 4: 15°

Web: <https://www.carrera-toys.com>

## Information about Scalextric Sport:

The Scalextric Sport rail system is one of the narrower systems on the market, produced in England by Hornby and distributed in Germany by Carson. The surface is relatively smooth. Material is soft plastic.

In contrast to Carrera, the conductors are so strongly magnetisable that you can get through the curves at high speeds without drift.

Scalextric is of course very common in England. Scalextric rails are ideal for demanding tracks in small spaces.

The track width is 15,6 cm.

Straights are available in the lengths:

Standard 35,0 cm, Half straight 17,5 cm, Quarter Straight 7,8 cm und Compensation Straight 8,7 cm.

	Inner radius	Radius inner slot	Radius outer slot	Outer radius
K1	5,8 cm	9,7 cm	17,6 cm	21,4 cm
K2	21,4 cm	25,3 cm	33,1 cm	37,0 cm
K3	37,0 cm	40,9 cm	47,7 cm	52,6 cm
K4	52,6 cm	56,5 cm	64,3 cm	68,2 cm

Curves are available in the following angles:

Curve 1: 22,5° und 45°

Curve 2: 22,5°, 45° und 90°

Curve 3: 22,5° und 90°

Curve 4: 22,5°

In tight curves it is possible that the leading keel of e.g. Carrera and Ninco cars is too long. Here you either have to change over or use a file.

Web: <https://www.scalextric.com/uk-en/>

### Information about the Ninco System:

Ninco tracks are very different from the Carrera system. They are manufactured in Spain. The rails are made of relatively soft PE.

The rails are step-resistant and very easy to handle, so they are very child-friendly. The Ninco track is also sold as a "beginner's track". The grip level is very high, as is the magnetisability of the ladder. This means that cars "out often he box" achieve high curve speeds and thus good lap times.

The track width is 18.0 cm or 7" and is therefore between Carrera and Scalextric.

Straights are available in the lengths:

Standard 40,6 cm (16), Half straight 20,3 cm (8"), Quarter Straight 10,2 cm (4") und Eighth straight 5,1 cm (2").

	Inner radius	Radius inner slot	Radius outer slot	Outer radius
K1	6,4 cm (2,5")	10,8 cm (4,25")	19,7 cm (7,75")	24,1 cm (9,5")
K2	24,1 cm (9,5")	28,6 cm (11,25")	37,5 cm (14,75")	41,9 cm (16,5")
K3	41,9 cm (16,5")	46,4 cm (18,25")	55,2 cm (21,75")	59,7 cm (23,5")
K4	59,7 cm (23,5")	64,1 cm (25,25")	73,0 cm (28,75")	77,5 cm (30,5")
K5	77,5 cm (30,5")	81,9 cm (32,25")	90,8 cm (35,75")	95,3 cm (37,5")

Web: <https://www.ninco.com>

### Information about the Harrel System:

The Harrel system has only been on the market recently. Harrel calls its rails "road". I don't have any experience with the system yet, but I dare to say that it is the most professional system on the market, especially the power supply is an absolute highlight. The precision of the rail transitions should almost come close to a wooden railway.

The slots are already different in colour and can be configured as desired.

Unfortunately the price is very high.

The dimensions of the Carrera tracks apply to the system.

Web: <https://harrel-rs.com>

# DONE !!!

Congratulations, you have worked your way through the instructions and hopefully now have your first grandstand in front of you.

Please let me know if you have found any errors in the instructions or the kit. Let me know about any improvements, I always want to stay on the ball and can incorporate changes.

**If you are satisfied, don't hesitate to let me know 😊**

Below you will find pictures to help you with the assembly.

Model images





