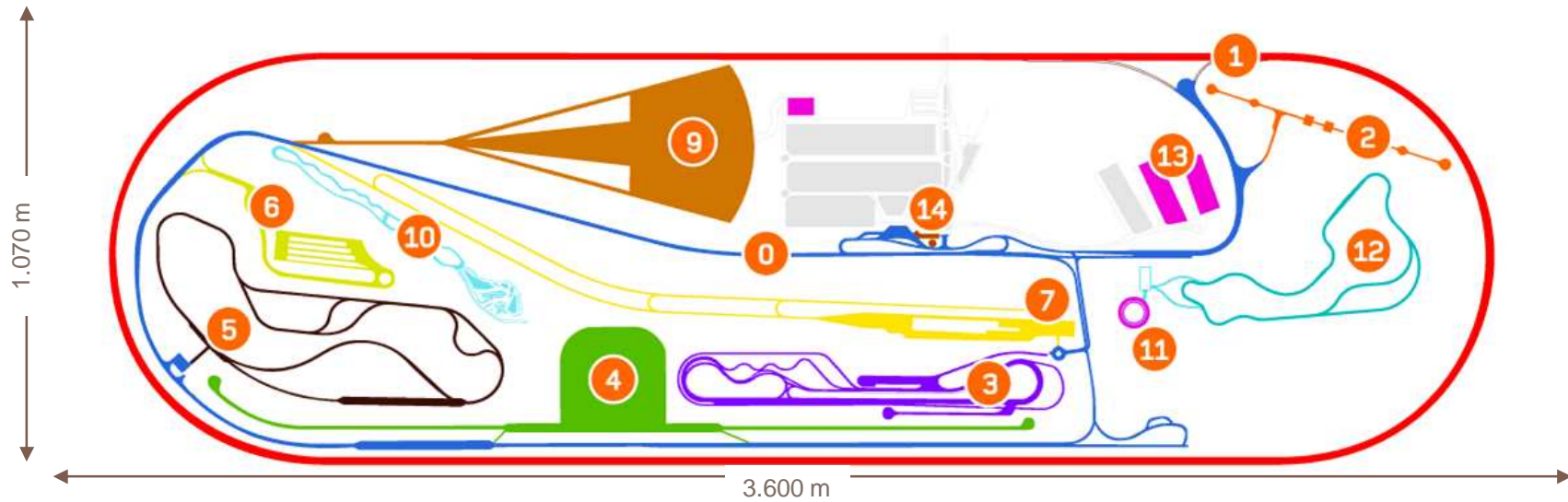


Applus⁺
IDIADA

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Proving Ground

The most comprehensive independent proving ground

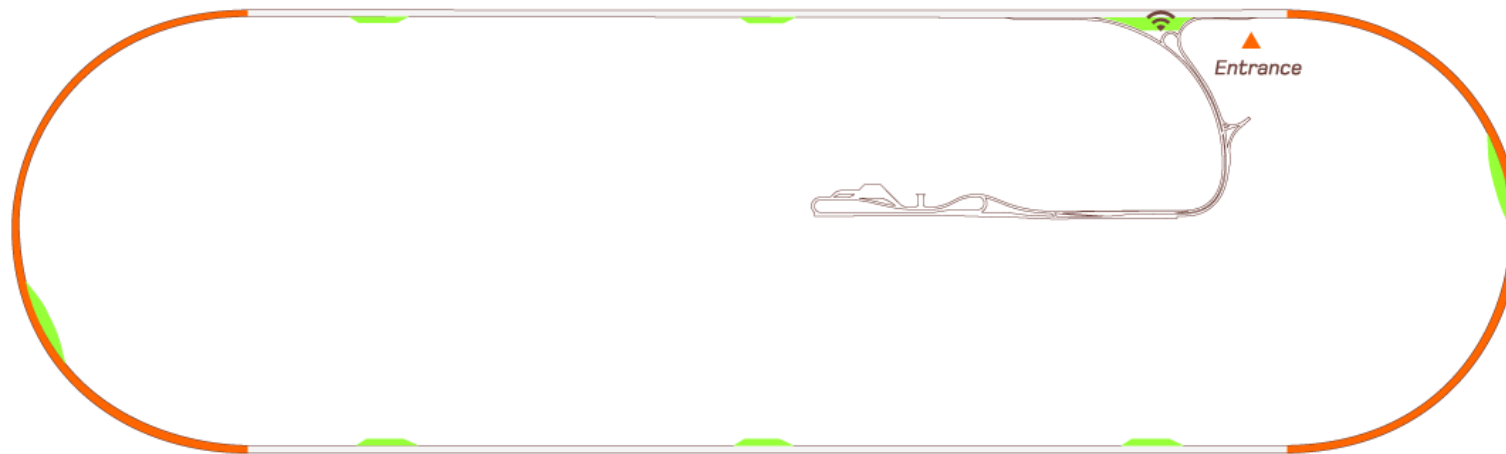


370 hectares



- | | | | |
|---|--|---|---|
|  | 0 General Road |  | 7 Straight Line Braking Surfaces / Comfort Track B |
|  | 1 High Speed Circuit |  | 9 Dynamic Platform B |
|  | 2 External Noise Test Track |  | 10 Off Road Track |
|  | 3 Fatigue Track A / Comfort Track A |  | 11 Wet Circle |
|  | 4 Dynamic Platform A |  | 12 Wet Handling Circuit |
|  | 5 Dry Handling Circuit |  | 13 Client Workshops |
|  | 6 Test Hills |  | 14 Control Tower |

High-Speed Circuit

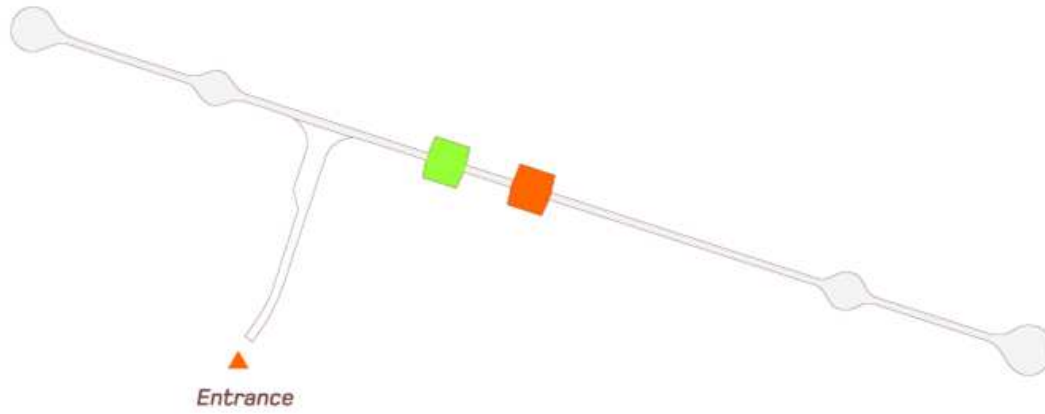


-  Straights
-  Bends
-  Parking
-  Free Wifi zone

Direction of travel Clockwise 

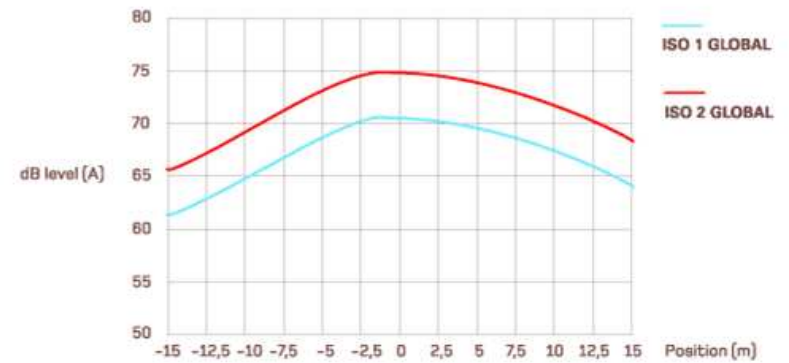
Length Lane 1	7.493 m
Length Lane 2	7.513 m
Length Lane 3	7.546 m
Length Lane 4	7.579 m
Length of straights	2.000 m
Neutral steer speed	200 km/h
Maximum banking bend	80% (38.66°)
Radius of the bends	471 m
Longitudinal gradient (straights)	0.3 %
Transverse gradient (straights)	1.0 %

External Noise Track



-  Acceleration lane
-  ISO I surface
-  ISO II surface

Test area dimensions	22 x 20 m
Length of acceleration lane	300 m



90 km/h Coastdown

ISO I vs. ISO II surfaces

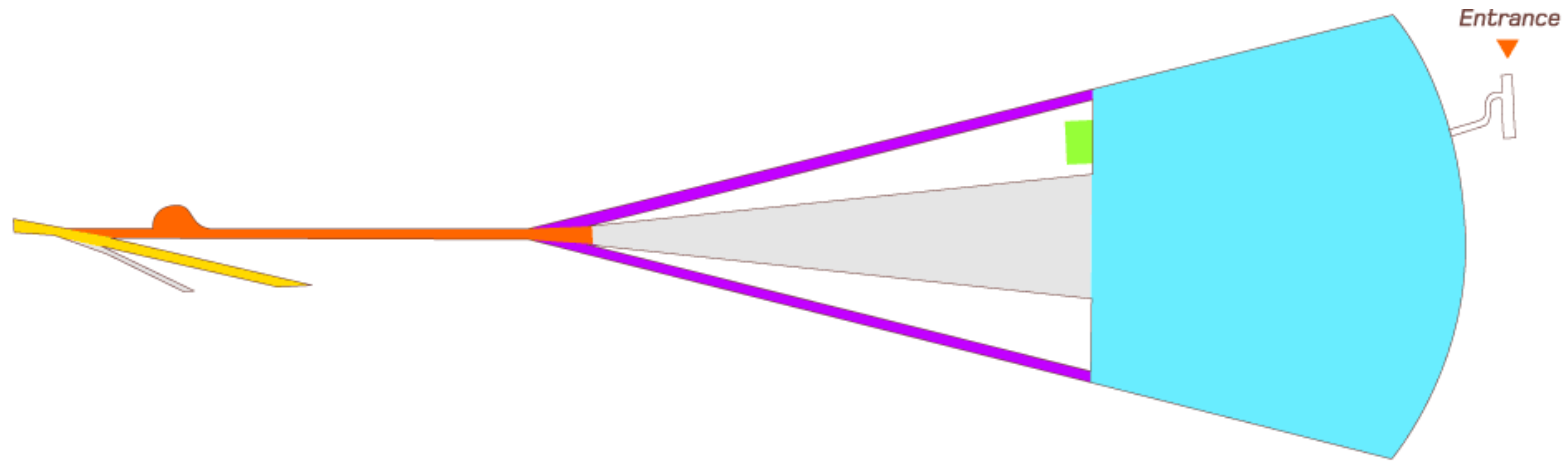
Dynamic Platform A



- Dynamic platform
- Slalom area
- Cross wind
- Acceleration lanes
- ISO III surface
- Parking
- Free Wifi zone

Platform dimensions	250 m long x 250 m wide											
Acceleration lanes on both sides of the platform	850 m											
Radius of circles R (m)	12	12,5	15	20	25	30	40	50	60	80	100	120
Bernouilli Lemniscata	R24 m											
Transverse and longitudinal gradient of the platform	0 %											

Dynamic Platform B



- Dynamic platform
- Trapezoid area
- Central approach
- Tangential approaches
- Approach from General Road
- Parking

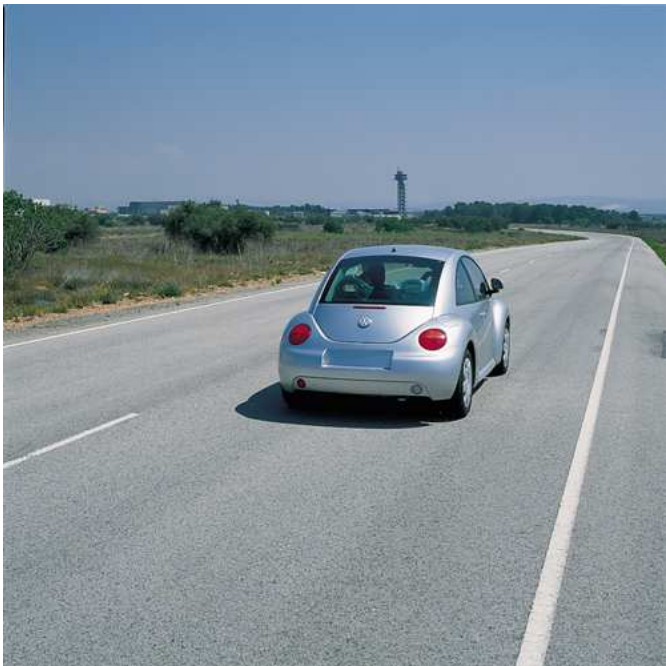
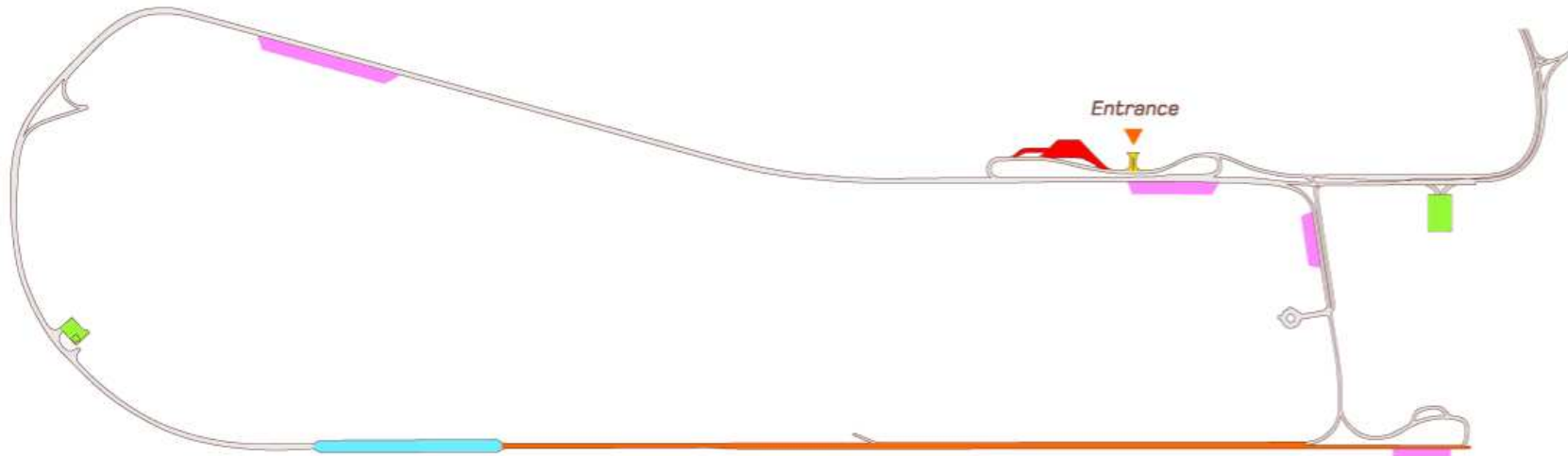
	Length	Width
Circular plate dimensions	300 m Ø	
Trapezoid dimensions	400 m	15 m to 100 m
Central acceleration lane	300 m	2 x 4 m
Tangential acceleration lanes	450 m	2 x 4 m
Longitudinal and transverse gradient of the platform and the trapezoid	0 %	

Dry Handling Track



Direction of travel	Anti-clockwise ↻
Total length	2.158 m
Length of optional circuits	1.770 m
Width	7 m
Adherence coefficient	0.8
Lane changes section	300 m x 20 m

General Road Circuit

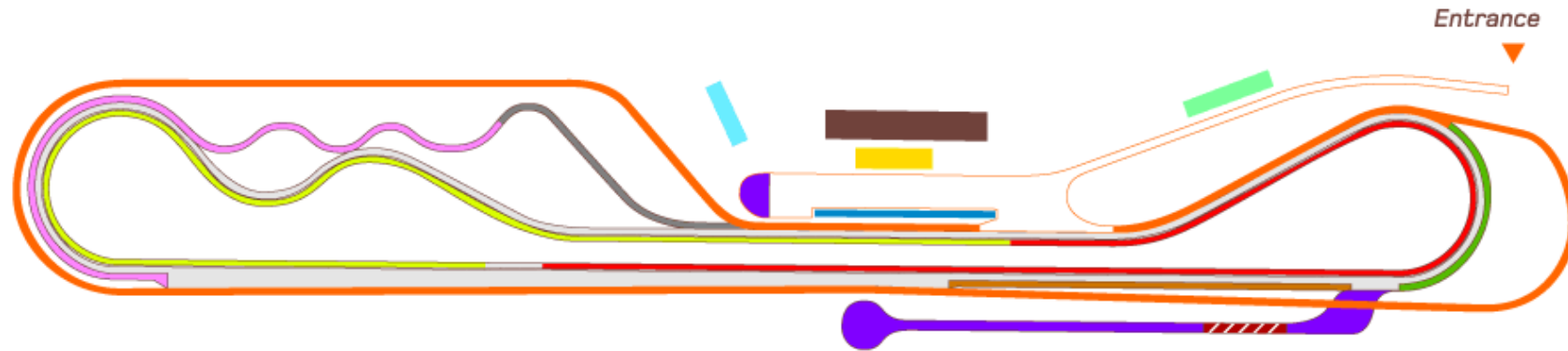



-  General road
-  Special flat section
Longitudinal gradient 0%
-  Braking area
-  Petrol station
-  Parking area with lift
-  Parking

Direction of travel Clockwise 

Total length	5.333 m
Length of south straight	1.620 m
Longitudinal gradient (south straight and braking area)	0 %
Braking area (length)	300 m
Braking area (width)	20 m

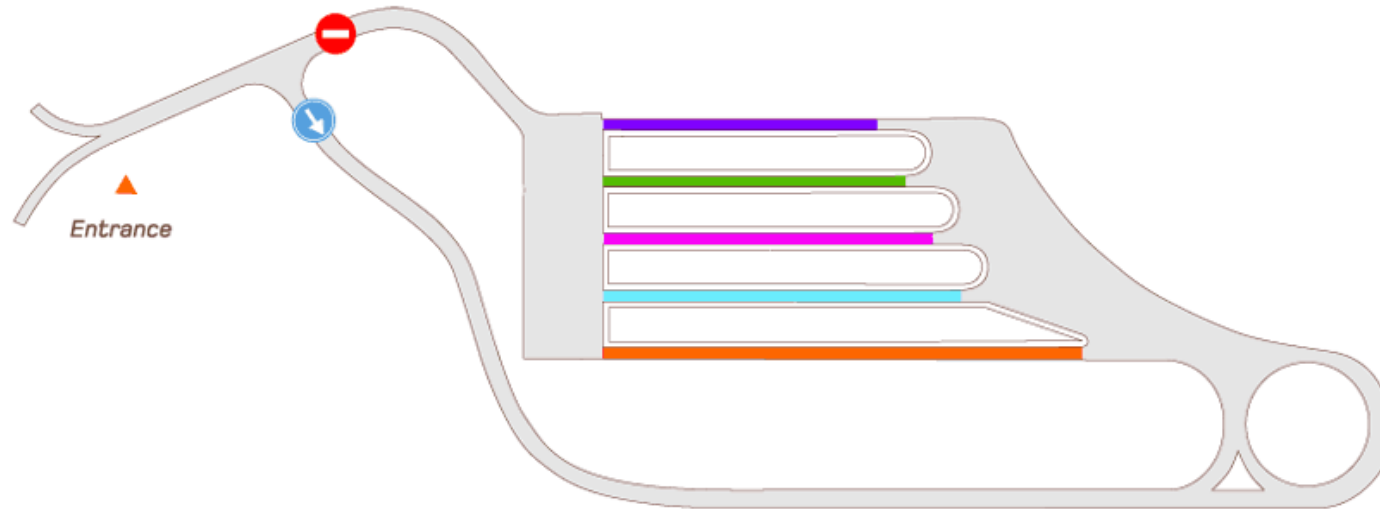
Accelerated Fatigue Track



Direction of travel	Clockwise / Anti-clockwise 			
Undulating concrete	145 m			
Potholes with water	220 m			
Gravel area	455 m			
Undulating concrete with stones	420 m			
Water wade (h: adjustable)	50 m x 4 m x (0 to 50 cm)			
Salt water wade (h: adjustable)	20 m x 4 m x (0 to 50 cm)			
Forest track	1950 m			
Block pavé road I	827 m			
Block pavé II	922 m			
Repaired asphalt	149 m			
Stop and go area	300 m			
Curbs	250 mm	200 mm	150 mm	100 mm

-  Forest track
-  Belgian block pave (I)
-  Belgian block pave (II)
-  Cobblestone road
-  Repaired asphalt
-  Curved rough road
-  Splash road
-  Water wade
-  Mud water wade
-  Salt water wade
-  Twist road
-  Misuse test area
-  Curbs
-  Inputs
-  Comfort road

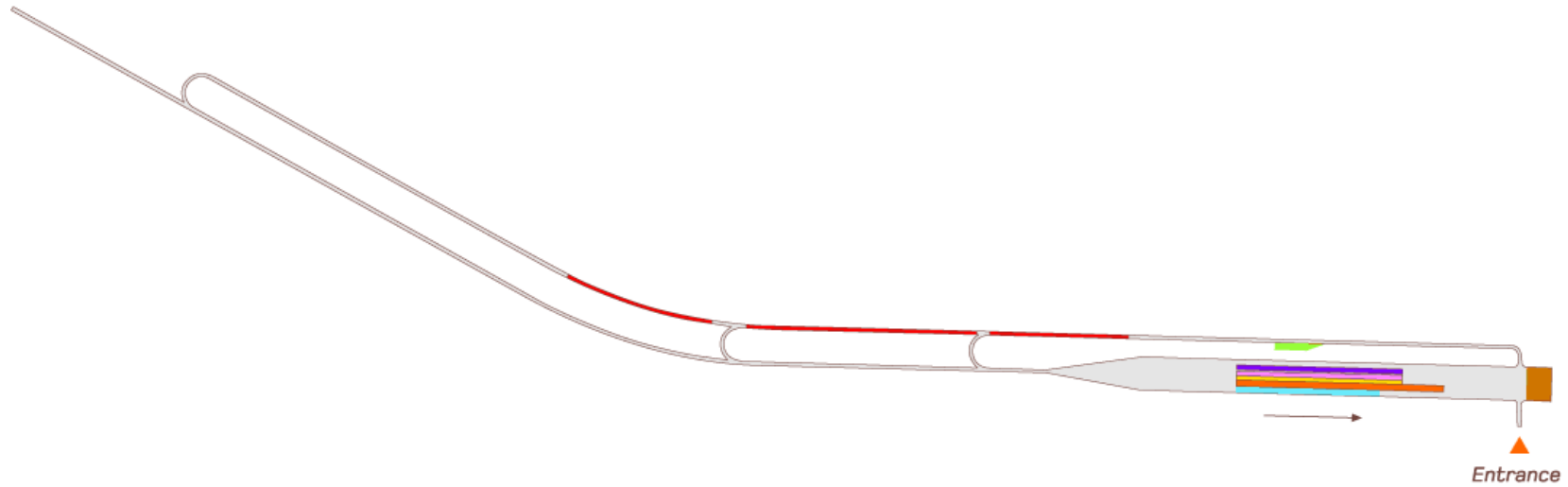
Test Hills



- Gradient 8%
- Gradient 12%
- Gradient 18%
- Gradient 24%
- Gradient 30%
- Test hills connection

Gradient of the hills	8%	12%	18%	24%	30%
Length with constant gradient	188 m	133 m	94 m	76 m	66 m

Wet Braking Surfaces

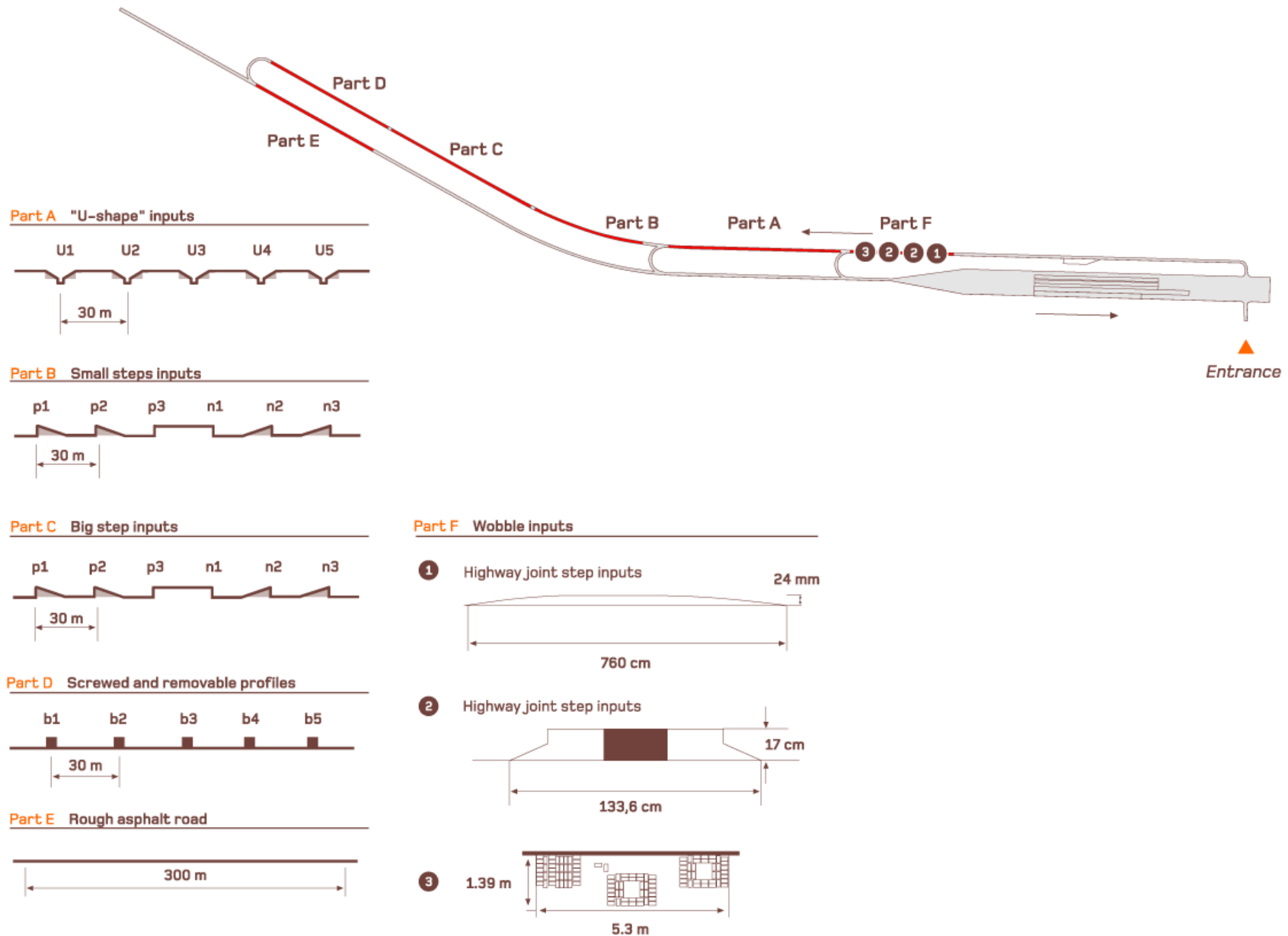


- Aquaplaning
- Ceramic tiles
- High friction asphalt
- Basalt slabs
- Treated concrete
- Gravel safety area
- Comfort surfaces
- Parking

LOW ADHERENCE SURFACE

Surface	Adherence (μ)	Water thickness	Width	Length	Longitudinal gradient	Transverse gradient	Max weight per axle
Ceramic tiles	0.1	1 mm	7,5 m	250 m	0%	1 % double gradient	175 T
Asphalt	0.8	1 mm	5 m	200 m	0%	1 %	16 T
Basalt slabs	0.3	1 mm	7,5 m	200 m	0%	1 % double gradient	13 T
Concrete	0.4	1 mm	7 m	200 m	0%	1 % double gradient	16 T
Aquaplaning		6 mm	3,5 m	150 m			16 T

Comfort Track



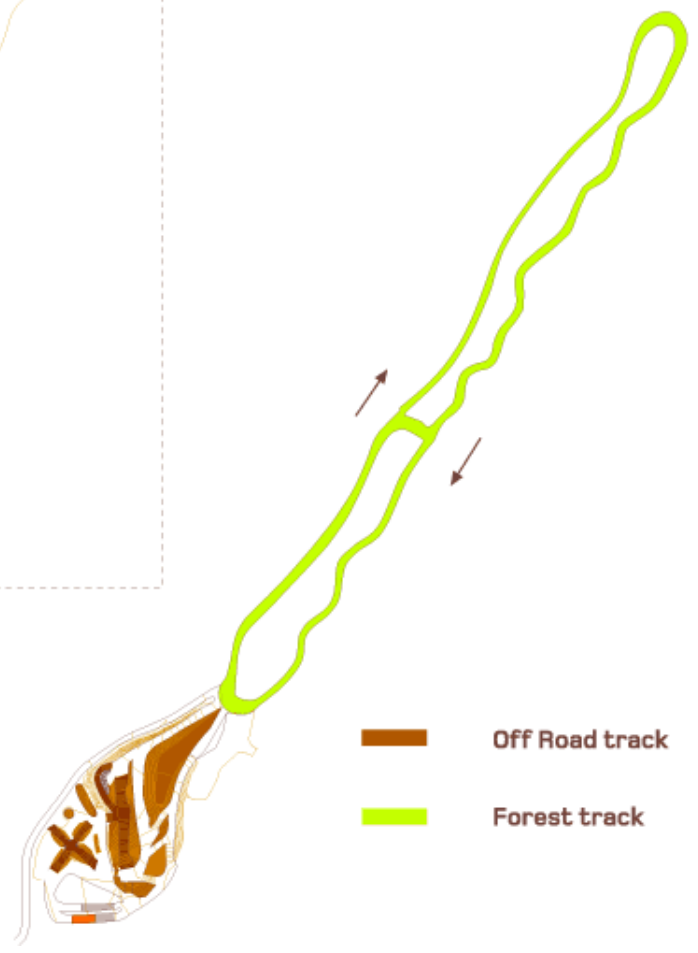
Specific Comfort Inputs



- Smooth profile
- Badly maintained road
- Symmetrical profile
- Bottoming
- Asymmetrical 90° profile
- Washboard 1
- Asymmetrical 180° profile
- Washboard 2

Direction of travel	Clockwise / Anti-clockwise
Pavé surface (length)	599 m
Road in poor condition (length)	1.311 m

Off-Road Track



Wet Handling Track



Wet Handling Circuit

Direction of travel	Anti-clockwise ↻		
	Main circuit	Alternative circuit	Aquaplaning on bend
Total length		1.566 m	
Width	6 m	6 m	
Surface	Asphalt		
Water height	1 mm	1 mm	

Wet Circle

	Basalt surface		Asphalt surface	
Interior radius	22,5 m		Interior radius	27,5 m
Exterior radius	27,5 m		Exterior radius	37,5 m

The proving ground facility is complemented by more than 28 fully-equipped and highly-confidential client workshops. Four different sizes are available for hire on a daily, weekly, monthly or annual basis. Each unit offers the advantages of a self-contained working area and all have the following:

- Parking area
- 3,000 kg column lift
- Fully-equipped toolbox
- Compressed air outlets
- Used oil deposit tank
- Battery charger
- 1,500 kg trolley jack
- Exhaust extractors
- Wheel mounting and balancing equipment
- Office equipped with desks, telephone, fax and air-conditioning and heating system
- Toilet
- Kitchen



Technical specifications:

Workshops	Type A	Type B	Type C	Type D
Size	270 m ²	200 m ²	130 m ²	120 m ²
Walled parking area	470 m ²	350 m ²	230 m ²	230 m ² *
> 3000 Kg column lift	2 column	2 column	2 - 4 column**	2 column
Pit	6 and 5 m	8 m	5 m	×
Office	120 m ²	90 m ²	60 m ²	30 m ²
Fully-equipped kitchen	✓	✓	✓	×
Changing room, shower and toilet	✓	✓	✓	Toilet only
Automatic main door	×	×	✓	✓

*Not walled

**Not available in all the type C workshops



Customer Services

Our customer service team is available to support clients and solve any problems which may arise.

Language barriers do not exist as our team members come from several European countries. Offering a personalised service, they will arrange everything from initial booking to departure. This enables the client to concentrate on testing.

Confidentiality and Security

At Applus+ IDIADA confidentiality and security are of the highest priority. The layout of the L'Albornar complex is designed in such a way that all movement can be easily monitored.

Service Stations

Two petrol stations delivering all grades of standard fuel are located inside the L'Albornar complex.

The first, situated inside the test track area, supplies standard and reference fuels, and offers a car washing facility. Two weighbridges are located in the second petrol station near the control tower.

Emergency Services

To further ensure our clients' wellbeing, Applus+ IDIADA operates a rapid response emergency service 24 hours a day, seven days a week.

How to contact us:

To contact our Customer Service Team you can either call our customer service number: +34 977 166 004, or e-mail: pg_client@idiada.com; proving_ground@idiada.com. You can also contact any member of the Customer Service Team via their personal e-mail.

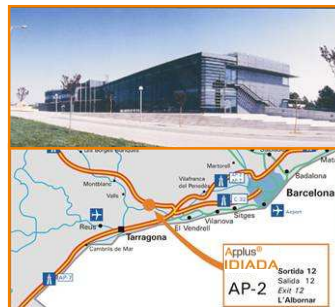
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