

Research on 18" and 19" wheel and tire options for a 981/981S Porsche (Street Legal Options Only)

	Tread	FRONT																												REAR															
		Some Tire size options for 18" or 19" on Porsche 981/S	Nominal Rim Width (inches)	Wheel Offset (ET) needed for stock inner clearance (mm)	Tire Outside Edge Increment vs. Stock, with offset change shown (mm)	Tire Inside/Outside Edge Increment without offset change (mm)	Sidewall Height (mm)	Total Tire Height (mm)	Tire Circumference (mm)	Approx. Real World Revs per Mile	Tire Diameter % Change vs. Stock	Ride Height Change vs. Stock (mm)	STOCK Pirelli PZero 220 AA A	Published Weight (lbs.)	Rim Width / Corresponding Tire Section Width (inches)	Goodyear Eagle F1 Assym2 240 AA A	Michelin Pilot Super Sport 300 AA A	Dunlop Direzza ZII SS 200 A A	Dunlop Direzza ZII 200 A A	Published Weight (lbs.)	Section Width	Bridgestone RE11 200 A A	Published Weight (lbs.)	Rim Width / Corresponding Tire Section Width (inches)	Hankook RS3 200 A A	Published Weight (lbs.)	Rim Width / Corresponding Tire Section Width (inches)	BFGoodrich Rival 200 AA A	Michelin Pilot Sport Cup 2 180 AA A	Federal 595RS-R 140 AA A	Kumho Ecsta XS 180 AA A	Published Weight (lbs.)	Rim Width / Corresponding Tire Section Width (inches)	Nitto NT01 100 AA A	Nitto NT 555R II Extreme 100 AA A	Nitto NT05 200 AA A	Toyo Proxes R888 100 AA A	Yokohama ADVAN AD08 R 180 AA A	Yokohama ADVAN A048 60 A A						
		235/35 19	8.0	57	0	0		647	2033	818	-3.6%	-12	\$ 258	21 lbs		?	\$ 242					\$ 258	26.0 lbs		\$ 325				7.2/32	7/32	8/32	8/32			6.3/32	6.3/32	7.2/32	6.3/32							
		235/40 19	8.0	57	0	0	94	671	2108	789	0%	0	\$ 325	23 lbs	8.5/9.5 (8/-9.3)	\$ 295	\$ 317					\$ 275			\$ 293				\$ 395											\$ 288					
		245/35 19	8.5	52	10	5		655	2058	808	-2.4%	-8				?	\$ 238					\$ 238			\$ 232															\$ 297					
		245/40 19	8.5	52	10	5		679	2133	779	1.2%	4				?	\$ 232			\$ 237	28 lbs		\$ 235																						
		255/30 19	9.0	47	20	10		637	2001	831	-5.1%	-17				?	\$ 263																								\$ 317				
		235/40 18	8.0	57	0	0		645	2026	820	-3.9%	-13				?		?	\$ 217			\$ 206	28.0 lbs		\$ 206				?	?	?	\$ 186	26.6 lbs	8.5/9.5	\$ 235			\$ 197	\$ 249	\$ 267	?				
		245/35 18	8.5	52	10	5	86	629	1976	841	-6.3%	-21	\$ 230	22 lbs		?	\$ 228															?	\$ 194	26.2 lbs	8.5/9.7										
		245/40 18	8.5	52	10	5	98	653	2051	810	-2.7%	-9	\$ 226	24 lbs		?	\$ 243	?	\$ 217	26 lbs	8.5/9.8	\$ 216	28.5 lbs	8.5/9.8	\$ 210	27 lbs	8.5/9.8	\$ 200	?		\$ 214	26.6 lbs	8.5/9.7	\$ 223			\$ 207	\$ 242	\$ 271						
		255/35 18	9.0	47	20	10	89	635	1995	833	-5.4%	-18	\$ 262	24 lbs		?	\$ 248	\$ 257	\$ 229	27 lbs	9/10.2 (8.5/10.0)	\$ 259	29.0 lbs	9/10.2 (8.5/10.0)	\$ 261	25 lbs	8.5/10.0)			?					?	\$ 261	\$ 291								
		255/40 18	9.0	47	20	10	89	661	2077	801	-1.5%	-5																												\$ 287					
		265/35 19	9.5	45	0	0		669	2102	791	-3.7%	-13		26 lbs			\$ 293					\$ 238	29.0 lbs							?											\$ 327				
		265/40 19	9.5	45	0	0	106	695	2183	761	0%	0	\$ 356	28 lbs	9.5/10.4	\$ 355	\$ 339					\$ 298								\$ 444															
		275/30 19	10.0	40	10	5		649	2039	815	-6.6%	-23				?	\$ 309																												
		275/35 19	10.0	40	10	5		675	2121	784	-2.9%	-10					\$ 307			\$ 301	31 lbs									?															
		275/40 19	10.0	40	10	5		703	2209	753	1.2%	4					\$ 291																												
		265/35 18	9.5	45	0	0		643	2020	823	-7.5%	-26				?	\$ 220	?	\$ 263	28 lbs			\$ 262										?	\$ 261				?	\$ 286	\$ 313	?				
		265/40 18	9.5	45	0	0		669	2102	791	-3.7%	-13					\$ 259					\$ 273	31.0 lbs		\$ 285																\$ 288				
		275/35 18	10.0	40	10	5	96	649	2039	815	-6.6%	-23					\$ 267	\$ 280	\$ 259	30 lbs	9.5/10.8	\$ 226	29.0 lbs	9.5/10.9	\$ 283	27 lbs		\$ 279				\$ 245	28.2 lbs	9.5/10.9	\$ 290		?	\$ 257							
		275/40 18	10.0	40	10	5	110	677	2127	782	-2.6%	-9										\$ 280	32.0 lbs	9.5/10.9 (10/11.1)												\$ 261			\$ 208	\$ 335					
		285/30 18	10.0	35	20	10	86	629	1976	841	-9.5%	-33						?	\$ 306	28 lbs	10/11.4	\$ 302	30.0 lbs									?							\$ 330	\$ 346	?				
		285/35 18	10.0	35	20	10	100	657	2064	805	-5.5%	-19	\$ 330	27 lbs			\$ 289																			\$ 291	\$ 221								
		295/35 18	10.5	30	30	15	103	663	2083	798	-4.6%	-16																\$ 290									?								
		295/30 18	10.5	30	30	15	89	635	1995	833	-8.6%	-30																											\$ 273	\$ 373	?				

A few sample tire pairings	Front	Rear	Rolling Ratio	Cost (set)	Comments
Pirelli PZero (Stock 19")	235/40 19	365/40 19	1.036	\$ 1,362	Stock "Porsche Spec" on my 981S Cayman. The non-Porsche Spec versions are less expensive.
Dunlop Direzza ZII (19")	245/40 19	275/35 19	0.994	\$ 1,076	The only 19" sizes available for the Z-II. Note rolling ratio variance from stock. I know at least one 981 driver uses these without apparent issues though.
Dunlop Direzza ZII (18")	255/35 18	275/35 18	1.022	\$ 976	Another very popular tire, that is compared to being on-par with the R-S3, but seems to have a stiffer sidewall
Bridgestone RE11	245/40 18	275/40 18	1.037	\$ 992	Excellent first set of competition tires. Stiff sidewalls, so don't need as much camber.
Hankook RS3	255/35 18	285/35 18	1.035	\$ 1,140	A very popular tire at AX and DE/TT events. Additional negative camber may be needed to avoid prematurely wearing the shoulders due to softer sidewalls.
Kumho Ecsta XS	245/35 18	275/35 18	1.032	\$ 878	Most reviews say they have great dry traction, but very poor wet traction
Nitto NT01	245/40 18	275/40 18	1.037	\$ 968	R-compound / 100-treadwear. Very popular competition tire.

Clarification of Column Headings	Description
(General Terminology & Specs)	Tire Rack's Tech Center (http://www.tirerack.com/about/techcenter.jsp) is a great source for understanding wheel and tire terminology and specifications.
Tire Size	Obvious, I hope...
Nominal Rim Width	The typical rim width used for each tire size. I usually used the manufacturer's "Measured rim width" for this.
Wheel Offset needed for stock inner clearance	Offset (or equivalent spacers) needed to maintain roughly the same stock clearance between the inside of your wheel well (strut, brake lines, etc.) and the wheel and tire
Outside Edge Increment with Offset change	Approximate change in the position of the outer edge of the tire relative to a stock tire, assuming you have non-stock wheels (or spacers) with the offset shown in the prior column. Use this to check appropriate fender coverage when upsizing.
Inside Edge Increment without Offset change	Approximate change in the position of each of the inside and outside edges of the tire relative to stock, assuming you make no change to offset (or spacers) from stock wheels. Use this to check inner clearance and fender coverage when upsizing.
Sidewall Height	Height of the unloaded sidewall (also known as "section height")
Total Tire Height	Total outside diameter of an unloaded tire
Tire Circumference	Total circumference of an unloaded tire
Approx. Real World Revs per Mile	Approximate loaded tire revs/mile. Since this depends on a lot of variables, I created a rough model based on real data from several manufacturers. I found that most values had a 3.3% deviation from an unloaded tire.
Tire Diameter % Change vs. Stock	Approximate change in tire size to indicate effective torque change and speedometer error vs. stock.
Ride Height Change vs. Stock	Approximate change in ride height depending on rim and tire size changes vs. stock.
Published Weight (lbs.)	Tire weight based on manufacturer specs.
Rim Width / Corresp. Tire Section Width	The manufacturer specified tire section width for the corresponding rim width. Items in parenthesis were estimated for those using a different rim size than what the manufacturer used for their measurement.
Rolling Ratio	The ratio of the revolutions per mile of the Front tire divided by the Rear tire. There is some concern that deviating this ratio too far from the stock ratio may upset the traction control computer.

Notes	
Tire Selection	I primarily included only 18" and 19" tires classified as "Extreme Summer Performance" tires by Tire Rack, which should be appropriate for track use and still OK for street use, at least in good weather.
Tire Omissions	Feel free to let me know if you think I overlooked a popular tire in the same class as the rest on here (suitable for track use and still OK for street use).
Data Source	I gathered data from a variety of sources, including Tire Rack, and some online wheel and tire size calculators. Primary calculator was from http://www.rimstires.com/specspro.jsp
Prices	Prices are changing all the time, so those are just a snapshot from either Tire Rack or another online source for brands that Tire Rack doesn't carry. Underlined prices were sale prices at the time. Please check for yourself to get the latest price or possible sale price.
Upsizing	Please be careful when deviating from your stock wheel and tire size. On my 981S, there is minimal clearance between the strut and wheel in front, so I bought my wider wheels with a smaller offset than stock in order to maintain stock front tire clearance just to be safe. There is more clearance in the rear wheel well, so you may not need much or any offset change in the rear to accommodate wider tires. Please verify for yourself. Also be careful about rules for fender coverage in relation to wider tires or a wider track than stock.
Errors	Please let me know if you find any significant error that might affect someone's buying decision, and I'll publish a correction.
Blanks	I didn't take the time to fill in all blanks in the table. For most tires in the first several columns, a blank price usually means they don't offer that size, but please double-check for yourself.