



OFFICIAL PERFORMANCE COOLANT
OFFICIAL RACE FUEL

Technical Overview: Stay Frosty™ Race Coolant





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Introducing Stay Frosty™

Stay Frosty is a new race coolant from VP Racing Fuels that significantly reduces engine temperatures, protects sensitive cooling system components, and meets ASTM corrosion protection standards.

Performance Advantages of Stay Frosty Race Ready



Stay Frosty Race Ready reduces cylinder head temps by an average 111°F as compared to waterless engine coolant



Stay Frosty reduces engine cylinder head temps by an average 77°F as compared to a conventional 50/50 mix



Waterless engine coolant is composed of 100% glycol, whereas Stay Frosty is a 100% water-based formula



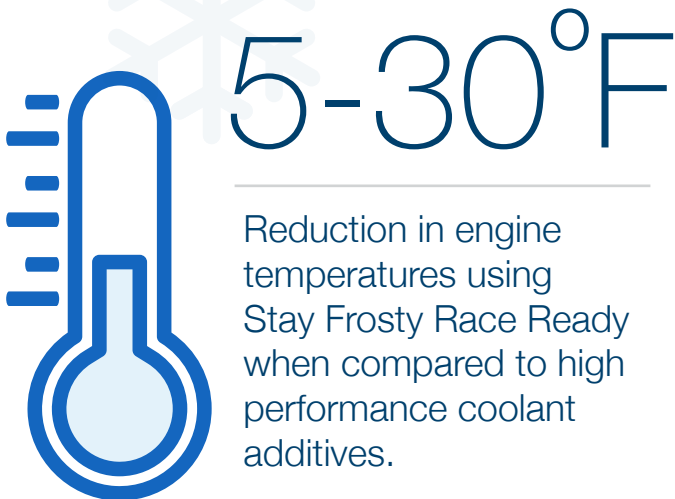
Water transfers approximately 2x more heat than glycol



The viscosity of glycol is 10x higher than water; the viscosity of a 50/50 mix is 3-6x higher than water



High coolant viscosity reduces flow rate, which further elevates temps unless a high-flow water pump is installed



Stay Frosty Specs



Stay Frosty Race Ready

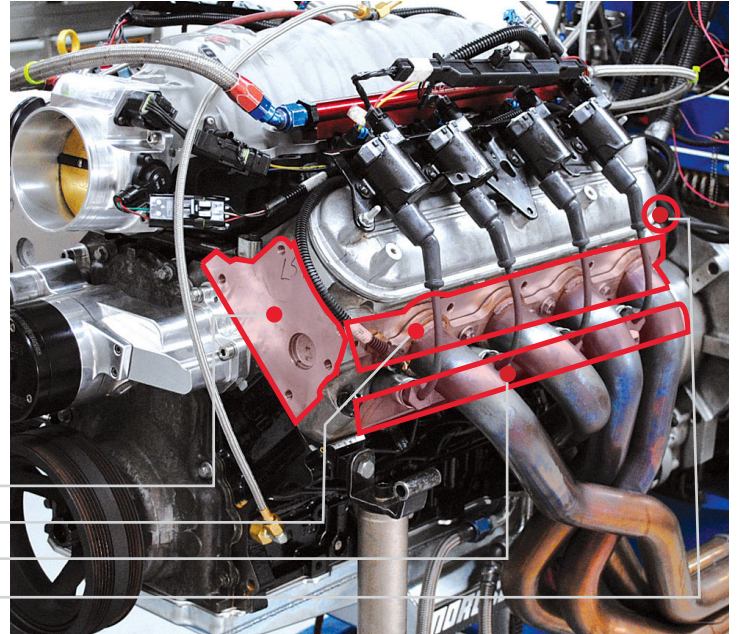
Density	8.38 lbs/gal
Freeze Point	32°F
Boiling Point (0 psi)	212°F
Boiling Point (16 psi)	252°F
Boiling Point (20 psi)	260°F
Liquid Color	Blue
Bottle Sizes	.5 gallon 1 gallon 5 gallon

Stay Frosty Testing

An infrared thermometer with dual-laser targeting was used for measuring metal surface temperatures at various location of engine cylinder heads after the engine had been run at 5,000 RPM for a period of 15 minutes, in order to achieve full operating temperature.

Measurement Locations

- Top of head (between each header tube)
- Front of head (multiple locations)
- Bottom of head (below each header tube)
- Back of head (multiple locations)



Cylinder Head Temperature Reductions

Measurement Location	Waterless Coolant (°F)	Stay Frosty Race Ready (°F)	Δ T.
1	886	772	114
2	889	773	116
3	884	770	114
4	885	769	116
5	882	773	109
6	879	768	111
7	886	771	115
8	890	775	115
9	891	774	117
10	874	767	107
11	868	762	106
12	871	765	106
13	865	764	101
14	873	767	106
AVG.	880	769	111



Coolant Temperature Reduction Results

Measurement Location	50/50 Mix (°F)	Stay Frosty Race Ready (°F)	Δ T.
1	854	774	80
2	856	776	80
3	847	771	76
4	848	770	78
5	845	770	75
6	844	766	78
7	845	768	77
8	847	772	75
9	853	773	80
10	842	765	77
11	839	764	75
12	843	766	77
13	841	763	78
14	841	765	76
AVG.	846	769	77



ASTM D1384 Corrosion Test for Engine Coolants*

Metal	Trial 1	Trial 2	Trial 3	Average	Max	Result
Copper	2	1	1	1	10	Pass
Solder	2	4	3	3	30	Pass
Brass	1	1	1	1	10	Pass
Steel	4	1	3	1	10	Pass
Iron	-1	0	0	0	10	Pass
Aluminum	5	6	5	5	30	Pass

ASTM D4340 Test for Aluminum Corrosion in Engine Coolants*

Metal	Trial 1	Trial 2	Average	Max	Result
Cast Aluminum Alloy	0.16	0.19	0.18	1.00	Pass

*Note: Tests conducted in 2016 by ISO 17025 accredited
ASTM certified independent third-party engine coolant test lab.*

** Pass required to meet ASTM D3306 Corrosion Protection Specification*



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About VP Racing Fuels

VP Racing Fuels is best known as the World Leader in Fuel Technology®, fueling champions in virtually every form of motorsport on land, sea, and air since 1975. The company operates internationally with businesses including race fuels and lubricants, consumer small engine fuels and automotive additives, and licensed retail fuel stations. VP is the Official Racing Fuel of more than 60 sponsored race series and sanctioning bodies. VP also provides consumer small engine fuels, lubricants, automotive additives, car appearance products, and accessories through national home improvement, automotive parts, and online retailers. The company's branding program allows independent operators of convenience store and gas stations, car wash, quick lube, and marinas to re-image as VP Racing Fuels and resell the company's ethanol-free 2-cycle and 4-cycle small engine fuels, Madditive® performance additives, Hi-Performance lubricants and appearance products.