

UNDERCONCENTRATED

FREEZE POINT ADJUSTMENT CHART FOR UNDERCONCENTRATED SYSTEMS (Use this chart to adjust your freeze point down to -35°F) For use with ethylene glycol based fluids.



TESTED FREEZE PROTECTION(°F)	%AF IN COOLANT	TOTAL COOLANT SYSTEM VOLUME												
		7-GAL	8-GAL	9-GAL	10-GAL	11-GAL	12-GAL	13-GAL	14-GAL	15-GAL				
25	10	3	3-1/2	4	4-1/2	5	5-1/4	5-3/4	6-1/4	6-3/4				
20	16	2-3/4	3-1/4	3-3/4	4	4-1/2	4-3/4	5-1/4	5-3/4	6				
15	21	2-1/2	3	3-1/4	3-3/4	4	4-1/2	4-3/4	5-1/4	5-1/2				
10	25	2-1/4	2-3/4	3	3-1/4	3-3/4	4	4-1/4	4-3/4	5				
5	29	2	2-1/4	2-3/4	3	3-1/4	3-1/2	3-3/4	4-1/4	4-1/2				
0	33	1-3/4	2	2-1/4	2-1/2	2-3/4	3	3-1/4	3-1/2	3-3/4				
-5	36	1-1/2	1-3/4	2	2-1/4	2-1/2	2-3/4	2-3/4	3	3-1/4				
-10	39	1-1/4	1-1/2	1-1/2	1-3/4	2	2-1/4	2-1/4	2-1/2	2-3/4				
-15	42	1	1	1-1/4	1-1/2	1-1/2	1-3/4	1-3/4	2	2				
-20	44	3/4	3/4	1	1	1-1/4	1-1/4	1-1/2	1-1/2	1-1/2				
-25	46	1/2	1/2	3/4	3/4	3/4	1	1	1	1				
-30	48	1/4	1/4	1/4	1/2	1/2	1/2	1/2	1/2	1/2				
-35	50	0	0	0	0	0	0	0	0	0				

Using a refractometer, measure freeze point of coolant, match reading with a value under the "Tested Freeze Protection" column. Determine cooling system volume; and using chart, determine volume of coolant to drain from cooling system. Replace drained volume with coolant concentrate.

USE REFRACTOMETER TO CHECK FREEZE PROTECTION

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OVERCONCENTRATED

FREEZE POINT ADJUSTMENT CHART FOR OVERCONCENTRATED SYSTEMS (Use this chart to adjust your freeze point up to -35°F)



FREEZE PROTECTION OF SAMPLE MIXED 50/50 WITH WATER (°F)	%AF IN COOLANT	TOTAL COOLANT SYSTEM VOLUME														
		7-GAL	8-GAL	9-GAL	10-GAL	11-GAL	12-GAL	13-GAL	14-GAL	15-GAL	VOLUME TO DRAIN AND REPLACE WITH DEIONIZED WATER					
+10	50	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
+7	55	3/4	3/4	3/4	1	1	1-1/4	1-1/4	1-1/4	1-1/4	1-1/4	1-1/4	1-1/4	1-1/4	1-1/4	1-1/2
+5	60	1-1/4	1-1/4	1-1/2	1-3/4	1-3/4	2	2-1/4	2-1/4	2-1/4	2-1/4	2-1/4	2-1/4	2-1/4	2-1/4	2-1/2
0	65	1-3/4	1-3/4	2-1/4	2-1/4	2-1/2	2-3/4	3	3-1/4	3-1/4	3-1/4	3-1/4	3-1/4	3-1/4	3-1/4	3-1/2
-5	70	2	2-1/4	2-3/4	2-3/4	3-1/4	3-1/2	3-3/4	4	4-1/4	4-1/4	4-1/4	4-1/4	4-1/4	4-1/4	4-1/4
-6	75	2-1/4	2-3/4	3	3-1/4	3-3/4	4	4-1/4	4-3/4	4-3/4	4-3/4	4-3/4	4-3/4	4-3/4	4-3/4	5
-12	80	2-3/4	3	3-1/2	3-3/4	4-1/4	4-1/2	5	5-1/4	5-1/4	5-1/4	5-1/4	5-1/4	5-1/4	5-1/4	5-3/4
-18	85	3	3-1/4	3-3/4	4-1/4	4-1/2	5	5-1/2	5-3/4	5-3/4	5-3/4	5-3/4	5-3/4	5-3/4	5-3/4	6-1/4
-23	90	3	3-1/2	4	4-1/2	5	5-1/4	5-3/4	6-1/4	6-1/4	6-1/4	6-1/4	6-1/4	6-1/4	6-3/4	6-3/4
-29	95	3-1/4	3-3/4	4-3/4	4-3/4	5-1/4	5-3/4	6-1/4	6-3/4	6-3/4	6-3/4	6-3/4	6-3/4	6-3/4	6-3/4	7-1/4
-35	100	3-1/2	4	4-1/2	5	5-1/2	6	6-1/2	7	7-3/4	7-3/4	7-3/4	7-3/4	7-3/4	7-3/4	7-3/4

If refractometer reading is off scale or shows a freeze point for the sample lower than -62°F, use the chart above to adjust the freeze point to -35°F. To do this, take the coolant sample and dilute it 50/50 with water. Take a new refractometer reading, and match this value to the reading under the "Freeze protection of sample mixed 50/50 with water" column. Determine your cooling system volume, and based on the chart above, drain the recommended amount of coolant and replace that volume with water. Recheck freeze point.

USE REFRACTOMETER TO CHECK FREEZE PROTECTION

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