

Measuring Alcohol Content:

Tools:

- Narrow Range Hydrometer - 0.990 to 1.120
- 1 pint or 1 litre glass or enamel pan for boiling

The following method measures the alcohol content by volume of any wine, spirit, or beer, uses no instruments except the hydrometer, and is as accurate as the ebullioscope. The method, simplified here for amateur use, is based on the researches of William Honneyman, B.Sc., Ph.D., and is described with Dr. Honneyman's permission.

1. Measure the SG of the wine you wish to test. We will call this figure SG-1.
2. Measure out exactly one litre or pint of the wine. We will call this the sample.
3. In a enamelled or glass pan, boil the sample down to about half its original volume. This drives off some of the water, but all of the alcohol, because alcohol boils at a lower temperature than water. The sample now consists of water, residual sugar, colouring matter, acids and proteins—that is, all the non-alcoholic constituents of the wine.
4. With distilled water make the boiled-down sample up to exactly a litre/pint again. Tap water is not recommended because, in some areas, it has a considerable dissolved mineral content that may affect your results.
5. Cool the sample down to 60°-F, or what ever temperature your hydrometer is calibrated for.
6. Read the SG of the sample, we will call this reading SG-2. You will find it higher than SG-1 because you have removed the alcohol and replaced it with water.
7. Subtract SG-1 from SG-2. The difference is called the Spirit Indication.
8. Read the alcohol strength from the following table.

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Spirit Indication---- Alcohol Strength,% by volume

1.5 -----	1.0
2-----	1.3
3 -----	2.0
4 -----	2.7
5-----	3.4
6-----	4.1
7-----	4.9
8-----	5.6
9-----	6.4
10-----	7.2
11-----	8.0
12-----	8.8
13-----	9.7
14-----	10.5
15-----	11.4
16-----	12.3
17-----	13.2
18-----	14.1
19-----	15.1
20-----	16.0
21-----	17.0
22-----	18.0
23-----	19.0
24-----	20.0
25-----	21.0
26-----	22.0

As an imaginary example:

SG-1 (SG of original wine) = 0.995

SG-2 (SG of sample at stage 6) =1.011

Spirit Indication= 1.011 - 0.995 = 16

Alcohol strength= 12.3 % by volume.

You can also buy progressively narrower range hydrometers, reading from 0.990 – 1.00, 1.00 – 1.05,,,. This should let you read SG to half a degree. You can then work out a spirit indication to half a unit and by interpolation on the table reach a closer value for alcohol strength.

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