

Winterbier

- Gravity **14.3 BLG**
- ABV **5.9 %**
- IBU **20**
- SRM **10.9**
- Style **Oktoberfest/Märzen**

Batch size

- Expected quantity of finished beer **17 liter(s)**
- Trub loss **15 %**
- Size with trub loss **19.6 liter(s)**
- Boil time **70 min**
- Evaporation rate **6 %/h**
- Boil size **22.8 liter(s)**

Mash information

- Mash efficiency **80 %**
- Liquor-to-grist ratio **3.5 liter(s) / kg**
- Mash size **17.5 liter(s)**
- Total mash volume **22.5 liter(s)**

Steps

- Temp **55 C**, Time **5 min**
- Temp **64 C**, Time **60 min**
- Temp **72 C**, Time **20 min**

Mash step by step

- Heat up **17.5 liter(s)** of strike water to **60C**
- Add grains
- Keep mash **5 min** at **55C**
- Keep mash **60 min** at **64C**
- Keep mash **20 min** at **72C**
- Sparge using **10.3 liter(s)** of **76C** water or to achieve **22.8 liter(s)** of wort

Fermentables

Type	Name	Amount	Yield	EBC
Grain	Pilsner	4.6 kg (92%)	80.5 %	4
Grain	Cara aroma (red)	0.1 kg (2%)	78 %	50
Grain	Chocolate Best	0.1 kg (2%)	75 %	900
Grain	Carapils Best	0.1 kg (2%)	75 %	5
Grain	Carahell Best	0.1 kg (2%)	75 %	15

Hops

Use for	Name	Amount	Time	Alpha acid
Boil	Tettnang	10 g	60 min	5 %
Boil	Hallertau Tradition	10 g	60 min	5.7 %
Boil	Tettnang	10 g	15 min	5 %
Boil	Hallertau Tradition	10 g	15 min	5.7 %
Aroma (end of boil)	Tettnang	10 g	5 min	5 %
Aroma (end of boil)	Hallertau Tradition	10 g	5 min	5.7 %

Yeasts

Name	Type	Form	Amount	Laboratory
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Wyeast - 2206 Bavarian Lager	Lager	Liquid	300 ml	Wyeast Labs
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