

## ALE B.D.

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- Gravity **12.1 BLG**
- ABV **4.9 %**
- IBU **28**
- SRM **3.6**
- Style **German Pilsner (Pils)**

### Batch size

- Expected quantity of finished beer **21 liter(s)**
- Trub loss **5 %**
- Size with trub loss **22.1 liter(s)**
- Boil time **65 min**
- Evaporation rate **10 %/h**
- Boil size **26.7 liter(s)**

### Mash information

- Mash efficiency **75 %**
- Liquor-to-grist ratio **3 liter(s) / kg**
- Mash size **15 liter(s)**
- Total mash volume **20 liter(s)**

### Steps

- Temp **38 C**, Time **10 min**
- Temp **53 C**, Time **30 min**
- Temp **65 C**, Time **30 min**
- Temp **72 C**, Time **30 min**
- Temp **78 C**, Time **10 min**

### Mash step by step

- Heat up **15 liter(s)** of strike water to **41C**
- Add grains
- Keep mash **10 min** at **38C**
- Keep mash **30 min** at **53C**
- Keep mash **30 min** at **65C**
- Keep mash **30 min** at **72C**
- Keep mash **10 min** at **78C**
- Sparge using **16.7 liter(s)** of **76C** water or to achieve **26.7 liter(s)** of wort

### Fermentables

Type	Name	Amount	Yield	EBC
Grain	BESTMALZ - Best Pilsen	5 kg (100%)	80.5 %	4

### Hops

Use for	Name	Amount	Time	Alpha acid
Boil	Marynka	20 g	45 min	8.8 %
Boil	Relax	32 g	15 min	2.8 %
Boil	Herkules	10 g	10 min	17 %

### Yeasts

Name	Type	Form	Amount	Laboratory
Safale S-04	Ale	Dry	11.5 g	Safale