

## BPA red v.3

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- Gravity **14 BLG**
- ABV **5.8 %**
- IBU **17**
- SRM **8.8**
- Style **Belgian Pale Ale**

### Batch size

- Expected quantity of finished beer **20 liter(s)**
- Trub loss **4 %**
- Size with trub loss **21.6 liter(s)**
- Boil time **60 min**
- Evaporation rate **5 %/h**
- Boil size **23.5 liter(s)**

### Mash information

- Mash efficiency **80 %**
- Liquor-to-grist ratio **2.7 liter(s) / kg**
- Mash size **14 liter(s)**
- Total mash volume **19.2 liter(s)**

### Steps

- Temp **65 C**, Time **1 min**
- Temp **63 C**, Time **40 min**
- Temp **72 C**, Time **10 min**
- Temp **78 C**, Time **5 min**

### Mash step by step

- Heat up **14 liter(s)** of strike water to **71C**
- Add grains
- Keep mash **40 min** at **63C**
- Keep mash **1 min** at **65C**
- Keep mash **10 min** at **72C**
- Keep mash **5 min** at **78C**
- Sparge using **14.7 liter(s)** of **76C** water or to achieve **23.5 liter(s)** of wort

### Fermentables

Type	Name	Amount	Yield	EBC
Grain	Briess - Pale Ale Malt	3.3 kg (63.5%)	80 %	7
Grain	Viking melanoidynowy	1 kg (19.2%)	75 %	60
Grain	Pilznieński	0.9 kg (17.3%)	81 %	4

### Hops

Use for	Name	Amount	Time	Alpha acid
Boil	Saaz (Czech Republic)	30 g	60 min	4.5 %
Boil	Saaz (Czech Republic)	10 g	15 min	4.5 %

### Yeasts

Name	Type	Form	Amount	Laboratory
m-21	Ale	Slant	30 ml	jack