

## Pale Ale Irish #12 bez chmielenia

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- Gravity **11 BLG**
- ABV **4.4 %**
- IBU **30**
- SRM **5.3**
- Style **Irish Red Ale**

### Batch size

- Expected quantity of finished beer **40 liter(s)**
- Trub loss **5 %**
- Size with trub loss **42 liter(s)**
- Boil time **70 min**
- Evaporation rate **10 %/h**
- Boil size **51.4 liter(s)**

### Mash information

- Mash efficiency **80 %**
- Liquor-to-grist ratio **3.8 liter(s) / kg**
- Mash size **31.2 liter(s)**
- Total mash volume **39.4 liter(s)**

### Steps

- Temp **58 C**, Time **15 min**
- Temp **65 C**, Time **45 min**
- Temp **69 C**, Time **20 min**

### Mash step by step

- Heat up **31.2 liter(s)** of strike water to **63C**
- Add grains
- Keep mash **15 min** at **58C**
- Keep mash **45 min** at **65C**
- Keep mash **20 min** at **69C**
- Sparge using **28.4 liter(s)** of **76C** water or to achieve **51.4 liter(s)** of wort

### Fermentables

Type	Name	Amount	Yield	EBC
Grain	Viking Pale Ale malt	6.8 kg (82.9%)	80 %	5
Grain	Biscuit Malt	0.4 kg (4.9%)	79 %	45
Grain	Bestmalz Red X	1 kg (12.2%)	79 %	30

### Hops

Use for	Name	Amount	Time	Alpha acid
Boil	Magnum	42 g	45 min	13.5 %

### Yeasts

Name	Type	Form	Amount	Laboratory
Saflager W 34/70	Lager	Dry	30 g	Fermentis