

## Pale

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- Gravity **12.4 BLG**
- ABV **5 %**
- IBU **34**
- SRM **4.4**
- Style **American Pale Ale**

### Batch size

- Expected quantity of finished beer **21 liter(s)**
- Trub loss **5 %**
- Size with trub loss **22.1 liter(s)**
- Boil time **80 min**
- Evaporation rate **10 %/h**
- Boil size **27.3 liter(s)**

### Mash information

- Mash efficiency **75 %**
- Liquor-to-grist ratio **3 liter(s) / kg**
- Mash size **15.6 liter(s)**
- Total mash volume **20.8 liter(s)**

### Steps

- Temp **50 C**, Time **15 min**
- Temp **62 C**, Time **30 min**
- Temp **72 C**, Time **15 min**
- Temp **77 C**, Time **1 min**

### Mash step by step

- Heat up **15.6 liter(s)** of strike water to **55C**
- Add grains
- Keep mash **15 min** at **50C**
- Keep mash **30 min** at **62C**
- Keep mash **15 min** at **72C**
- Keep mash **1 min** at **77C**
- Sparge using **16.9 liter(s)** of **76C** water or to achieve **27.3 liter(s)** of wort

### Fermentables

Type	Name	Amount	Yield	EBC
Grain	Viking Pale Ale malt	4 kg (76.9%)	80 %	5
Grain	Pilzniejszy	1 kg (19.2%)	81 %	4
Grain	Strzegom Karmel 30	0.2 kg (3.8%)	75 %	30

### Hops

Use for	Name	Amount	Time	Alpha acid
Boil	Lublin (Lubelski)	50 g	65 min	4 %
Boil	Lublin (Lubelski)	50 g	20 min	4 %

### Yeasts

Name	Type	Form	Amount	Laboratory
w/23	Lager	Slant	500 ml	---

### Notes

- franekca.pl.tl  
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