

## Pale sAle

- Gravity **14.7 BLG**
- ABV ---
- IBU **62**
- SRM **17.9**

### Batch size

- Expected quantity of finished beer **25 liter(s)**
- Trub loss **5 %**
- Size with trub loss **26.3 liter(s)**
- Boil time **60 min**
- Evaporation rate **10 %/h**
- Boil size **31.7 liter(s)**

### Mash information

- Mash efficiency **80 %**
- Liquor-to-grist ratio **3 liter(s) / kg**
- Mash size **19.5 liter(s)**
- Total mash volume **26 liter(s)**

### Steps

- Temp **69 C**, Time **60 min**
- Temp **72 C**, Time **15 min**
- Temp **78 C**, Time **1 min**

### Mash step by step

- Heat up **19.5 liter(s)** of strike water to **77.2C**
- Add grains
- Keep mash **60 min** at **69C**
- Keep mash **15 min** at **72C**
- Keep mash **1 min** at **78C**
- Sparge using **18.7 liter(s)** of **76C** water or to achieve **31.7 liter(s)** of wort

### Fermentables

Type	Name	Amount	Yield	EBC
Grain	Strzegom Pale Ale	4 kg (61.5%)	79 %	6
Grain	Strzegom Wiedeński	2 kg (30.8%)	79 %	10
Grain	Strzegom Karmel 300	0.5 kg (7.7%)	70 %	299

### Hops

Use for	Name	Amount	Time	Alpha acid
Boil	lunga	50 g	60 min	11 %
Boil	Mosaic	20 g	10 min	10 %
Boil	Ella (AUS)	20 g	5 min	14.6 %
Boil	Mosaic	30 g	1 min	10 %
Dry Hop	Ella (AUS)	30 g	5 day(s)	14.6 %

### Yeasts

Name	Type	Form	Amount	Laboratory
Mangrove Jack's M44 US West Coast	Ale	Slant	150 ml	Mangrove Jack's