

- Gravity **13.3 BLG**
- ABV **5.5 %**
- IBU **43**
- SRM **12**
- Style **Extra Special/Strong Bitter (English Pale Ale)**

### Batch size

- Expected quantity of finished beer **24 liter(s)**
- Trub loss **5 %**
- Size with trub loss **25.4 liter(s)**
- Boil time **60 min**
- Evaporation rate **6 %/h**
- Boil size **29 liter(s)**

### Mash information

- Mash efficiency **80 %**
- Liquor-to-grist ratio **2.5 liter(s) / kg**
- Mash size **15 liter(s)**
- Total mash volume **21 liter(s)**

### Steps

- Temp **62 C**, Time **30 min**
- Temp **76 C**, Time **40 min**

### Mash step by step

- Heat up **15 liter(s)** of strike water to **70.4C**
- Add grains
- Keep mash **30 min** at **62C**
- Keep mash **40 min** at **76C**
- Sparge using **20 liter(s)** of **76C** water or to achieve **29 liter(s)** of wort

### Fermentables

Type	Name	Amount	Yield	EBC
Grain	Viking Pale Ale malt	4 kg (66.7%)	80 %	5
Grain	Strzegom Karmel 150	1 kg (16.7%)	75 %	150
Grain	Pszeniczny	1 kg (16.7%)	85 %	4

### Hops

Use for	Name	Amount	Time	Alpha acid
Boil	Marynka	20 g	60 min	10 %
Boil	Marynka	20 g	30 min	10 %
Aroma (end of boil)	Lublin (Lubelski)	80 g	10 min	4 %
Whirlpool	Marynka	60 g	1 min	10 %
Whirlpool	Lublin (Lubelski)	40 g	1 min	4 %

### Yeasts

Name	Type	Form	Amount	Laboratory
Mangrove Jack's M44 US West Coast	Ale	Dry	11 g	Uwodnione