

## NO. 21

- Gravity **22.7 BLG**
- ABV **10.3 %**
- IBU **46**
- SRM **36.7**
- Style **Baltic Porter**

### Batch size

- Expected quantity of finished beer **10 liter(s)**
- Trub loss **15 %**
- Size with trub loss **11.5 liter(s)**
- Boil time **80 min**
- Evaporation rate **10 %/h**
- Boil size **14.7 liter(s)**

### Mash information

- Mash efficiency **70 %**
- Liquor-to-grist ratio **3 liter(s) / kg**
- Mash size **17.2 liter(s)**
- Total mash volume **23 liter(s)**

### Steps

- Temp **58 C**, Time **10 min**
- Temp **64 C**, Time **40 min**
- Temp **69 C**, Time **40 min**

### Mash step by step

- Heat up **17.2 liter(s)** of strike water to **64.4C**
- Add grains
- Keep mash **10 min** at **58C**
- Keep mash **40 min** at **64C**
- Keep mash **40 min** at **69C**
- Sparge using **3.3 liter(s)** of **76C** water or to achieve **14.7 liter(s)** of wort

### Fermentables

Type	Name	Amount	Yield	EBC
Grain	Monachijski	4 kg (69.6%)	80 %	16
Grain	Wiedeński	1 kg (17.4%)	79 %	10
Grain	Pszeniczny	0.25 kg (4.3%)	85 %	4
Grain	special x	0.1 kg (1.7%)	50 %	400
Grain	Karmelowy Jasny 30EBC	0.2 kg (3.5%)	75 %	300
Grain	Extra black	0.1 kg (1.7%)	65 %	1400
Grain	palone ziarno jęczmienia	0.1 kg (1.7%)	50 %	1200

### Hops

Use for	Name	Amount	Time	Alpha acid
Boil	Perle	50 g	60 min	7 %

### Yeasts

Name	Type	Form	Amount	Laboratory
bavarian lager m76	Lager	Dry	10 g	---