

port

- Gravity **18.2 BLG**
- ABV **7.8 %**
- IBU **46**
- SRM **37.4**

Batch size

- Expected quantity of finished beer **23 liter(s)**
- Trub loss **5 %**
- Size with trub loss **25.3 liter(s)**
- Boil time **60 min**
- Evaporation rate **10 %/h**
- Boil size **30.4 liter(s)**

Mash information

- Mash efficiency **75 %**
- Liquor-to-grist ratio **2.9 liter(s) / kg**
- Mash size **25.5 liter(s)**
- Total mash volume **34.3 liter(s)**

Fermentables

Type	Name	Amount	Yield	EBC
Grain	Viking Pilsner malt	5 kg (56.8%)	82 %	4
Grain	Bruntal	1 kg (11.4%)	81 %	26
Grain	Cara Gold Castlemalting	0.2 kg (2.3%)	78 %	120
Grain	Carafa III	0.2 kg (2.3%)	70 %	1500
Grain	black bruntal	0.2 kg (2.3%)	--- %	1500
Grain	viking black	0.2 kg (2.3%)	--- %	1300
Grain	Viking Munich Malt	1 kg (11.4%)	78 %	18
Grain	Viking Vienna Malt	1 kg (11.4%)	79 %	7

Hops

Use for	Name	Amount	Time	Alpha acid
Boil	hallertauer taurus	30 g	60 min	14 %
Boil	Marynka	30 g	30 min	8.8 %

Yeasts

Name	Type	Form	Amount	Laboratory
Gozdawa Pure Ale Yeast 7	Ale	Dry	10 g	---