

FES

- Gravity **16.4 BLG**
- ABV **6.9 %**
- IBU **46**
- SRM **28.7**
- Style **Foreign Extra Stout**

Batch size

- Expected quantity of finished beer **50 liter(s)**
- Trub loss **5 %**
- Size with trub loss **52.5 liter(s)**
- Boil time **90 min**
- Evaporation rate **10 %/h**
- Boil size **66.1 liter(s)**

Mash information

- Mash efficiency **75 %**
- Liquor-to-grist ratio **3 liter(s) / kg**
- Mash size **48.3 liter(s)**
- Total mash volume **64.4 liter(s)**

Fermentables

Type	Name	Amount	Yield	EBC
Grain	Weyermann - Pale Ale Malt	10 kg (62.1%)	85 %	7
Grain	Weyermann - Light Munich Malt	1.3 kg (8.1%)	82 %	14
Grain	Carabelge	1.5 kg (9.3%)	80 %	30
Grain	Weyermann - Vienna Malt	1 kg (6.2%)	81 %	8
Grain	Żytni	1 kg (6.2%)	85 %	8
Grain	Black Barley (Roast Barley)	0.8 kg (5%)	55 %	985
Grain	Carafa II	0.5 kg (3.1%)	70 %	812

Hops

Use for	Name	Amount	Time	Alpha acid
Boil	Hallertau Blanc	60 g	60 min	9 %
Boil	Iunga	50 g	15 min	12.5 %
Boil	Lublin (Lubelski)	50 g	15 min	4 %
Boil	Hallertau Blanc	60 g	15 min	9 %

Yeasts

Name	Type	Form	Amount	Laboratory
us-05	Ale	Slant	350 ml	---