

## 4B. Festbier

- Gravity **13.3 BLG**
- ABV **5.5 %**
- IBU **24**
- SRM **4.5**
- Style **Oktoberfest/Märzen**

### Batch size

- Expected quantity of finished beer **17 liter(s)**
- Trub loss **5 %**
- Size with trub loss **17.9 liter(s)**
- Boil time **60 min**
- Evaporation rate **7 %/h**
- Boil size **20 liter(s)**

### Mash information

- Mash efficiency **75 %**
- Liquor-to-grist ratio **3.95 liter(s) / kg**
- Mash size **17 liter(s)**
- Total mash volume **21.3 liter(s)**

### Steps

- Temp **55 C**, Time **10 min**
- Temp **66 C**, Time **60 min**
- Temp **72 C**, Time **15 min**

### Mash step by step

- Heat up **17 liter(s)** of strike water to **59.4C**
- Add grains
- Keep mash **10 min** at **55C**
- Keep mash **60 min** at **66C**
- Keep mash **15 min** at **72C**
- Sparge using **7.3 liter(s)** of **76C** water or to achieve **20 liter(s)** of wort

### Fermentables

Type	Name	Amount	Yield	EBC
Grain	Pilzneński	3.9 kg (90.7%)	81 %	4
Grain	Strzegom Wiedeński	0.3 kg (7%)	79 %	10
Grain	Biscuit Malt	0.1 kg (2.3%)	79 %	45

### Hops

Use for	Name	Amount	Time	Alpha acid
Boil	Magnum	10 g	60 min	13.5 %
Aroma (end of boil)	Tettnang	25 g	15 min	4 %

### Yeasts

Name	Type	Form	Amount	Laboratory
Lutra	Ale	Slant	100 ml	---

### Extras

Type	Name	Amount	Use for	Time
Water Agent	CaCl3	4 g	Boil	60 min