

Fränkisches Rotbier PK

- Gravity **11.7 BLG**
- ABV **4.7 %**
- IBU **22**
- SRM **15.3**
- Style **Munich Dunkel**

Batch size

- Expected quantity of finished beer **15 liter(s)**
- Trub loss **5 %**
- Size with trub loss **15.8 liter(s)**
- Boil time **70 min**
- Evaporation rate **10 %/h**
- Boil size **19.3 liter(s)**

Mash information

- Mash efficiency **75 %**
- Liquor-to-grist ratio **3.5 liter(s) / kg**
- Mash size **12.4 liter(s)**
- Total mash volume **16 liter(s)**

Steps

- Temp **57 C**, Time **10 min**
- Temp **64 C**, Time **45 min**
- Temp **72 C**, Time **15 min**
- Temp **76 C**, Time **3 min**

Mash step by step

- Heat up **12.4 liter(s)** of strike water to **62.3C**
- Add grains
- Keep mash **10 min** at **57C**
- Keep mash **45 min** at **64C**
- Keep mash **15 min** at **72C**
- Keep mash **3 min** at **76C**
- Sparge using **10.5 liter(s)** of **76C** water or to achieve **19.3 liter(s)** of wort

Fermentables

Type	Name	Amount	Yield	EBC
Grain	Münchner Malz Best	1.5 kg (42.3%)	78 %	20
Grain	Wiener Malz Best	0.5 kg (14.1%)	80 %	8
Grain	Bestmalz Red X	1 kg (28.2%)	79 %	30
Grain	Melanoiden Malt	0.1 kg (2.8%)	80 %	70
Grain	Caramunich 2 Best	0.2 kg (5.6%)	73 %	120
Grain	Caramel Aroma Best	0.2 kg (5.6%)	81 %	50
Grain	Black Barley (Roast Barley)	0.05 kg (1.4%)	55 %	1100

Hops

Use for	Name	Amount	Time	Alpha acid
Boil	Lubelski	10 g	60 min	3 %
Boil	Saaz (Czech Republic)	10 g	60 min	3.8 %
Boil	Hallertau	15 g	60 min	5.2 %

Yeasts

Name	Type	Form	Amount	Laboratory
Wyeast - Bohemian Lager 2124	Lager	Liquid	50 ml	Wyeast Labs