

## #17 Kolsch (Klarstein)

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- Gravity **11.9 BLG**
- ABV **4.8 %**
- IBU **29**
- SRM **3.7**
- Style **Kölsch**

### Batch size

- Expected quantity of finished beer **22 liter(s)**
- Trub loss **5 %**
- Size with trub loss **23.1 liter(s)**
- Boil time **60 min**
- Evaporation rate **10 %/h**
- Boil size **27.8 liter(s)**

### Mash information

- Mash efficiency **70 %**
- Liquor-to-grist ratio **4 liter(s) / kg**
- Mash size **22 liter(s)**
- Total mash volume **27.5 liter(s)**

### Steps

- Temp **52 C**, Time **10 min**
- Temp **63 C**, Time **45 min**
- Temp **72 C**, Time **25 min**
- Temp **78 C**, Time **10 min**

### Mash step by step

- Heat up **22 liter(s)** of strike water to **56C**
- Add grains
- Keep mash **10 min** at **52C**
- Keep mash **45 min** at **63C**
- Keep mash **25 min** at **72C**
- Keep mash **10 min** at **78C**
- Sparge using **11.3 liter(s)** of **76C** water or to achieve **27.8 liter(s)** of wort

### Fermentables

Type	Name	Amount	Yield	EBC
Grain	Pilzneński	5 kg (90.9%)	81 %	4
Grain	Pszeniczny	0.5 kg (9.1%)	85 %	4

### Hops

Use for	Name	Amount	Time	Alpha acid
Boil	Magnum	15 g	60 min	13.5 %
Aroma (end of boil)	Tradition	30 g	15 min	5.5 %
Mash	Marynka	15 g	30 min	10 %

### Yeasts

Name	Type	Form	Amount	Laboratory
Safale K-97	Ale	Dry	11.5 g	Fermentis