

## #4 Kölsch JJ

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- Gravity **11.9 BLG**
- ABV **4.8 %**
- IBU **18**
- SRM **2.7**
- 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 **75 %**
- Liquor-to-grist ratio **3 liter(s) / kg**
- Mash size **10.5 liter(s)**
- Total mash volume **14 liter(s)**

### Steps

- Temp **45 C**, Time **0 min**
- Temp **64 C**, Time **45 min**
- Temp **72 C**, Time **15 min**
- Temp **78 C**, Time **5 min**

### Mash step by step

- Heat up **10.5 liter(s)** of strike water to **49.2C**
- Add grains
- Keep mash **0 min** at **45C**
- Keep mash **45 min** at **64C**
- Keep mash **15 min** at **72C**
- Keep mash **5 min** at **78C**
- Sparge using **20.8 liter(s)** of **76C** water or to achieve **27.8 liter(s)** of wort

### Fermentables

Type	Name	Amount	Yield	EBC
Grain	Strzegom Pilzneński	3.5 kg (74.5%)	80 %	4
Liquid Extract	WES ekstrakt słodowy jasny	1.2 kg (25.5%)	80 %	---

### Hops

Use for	Name	Amount	Time	Alpha acid
Boil	Lublin (Lubelski)	50 g	40 min	2.8 %
Boil	Lublin (Lubelski)	50 g	10 min	2.8 %

### Yeasts

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