

Grygrowskie

- Gravity **11.9 BLG**
- ABV **4.8 %**
- IBU **60**
- SRM **3.5**
- Style **Kölsch**

Batch size

- Expected quantity of finished beer **35 liter(s)**
- Trub loss **5 %**
- Size with trub loss **36.8 liter(s)**
- Boil time **90 min**
- Evaporation rate **10 %/h**
- Boil size **46.3 liter(s)**

Mash information

- Mash efficiency **75 %**
- Liquor-to-grist ratio **3 liter(s) / kg**
- Mash size **24 liter(s)**
- Total mash volume **32 liter(s)**

Steps

- Temp **52 C**, Time **10 min**
- Temp **64 C**, Time **45 min**
- Temp **72 C**, Time **15 min**
- Temp **78 C**, Time **1 min**

Mash step by step

- Heat up **24 liter(s)** of strike water to **57.3C**
- Add grains
- Keep mash **10 min** at **52C**
- Keep mash **45 min** at **64C**
- Keep mash **15 min** at **72C**
- Keep mash **1 min** at **78C**
- Sparge using **30.3 liter(s)** of **76C** water or to achieve **46.3 liter(s)** of wort

Fermentables

Type	Name	Amount	Yield	EBC
Grain	Viking Pilsner malt	7 kg (87.5%)	82 %	4
Grain	Pszeniczny	1 kg (12.5%)	85 %	4

Hops

Use for	Name	Amount	Time	Alpha acid
Boil	lunga	30 g	60 min	11 %
Boil	lunga	30 g	30 min	11 %
Aroma (end of boil)	lunga	30 g	15 min	11 %
Aroma (end of boil)	lunga	30 g	10 min	11 %
Aroma (end of boil)	lunga	30 g	5 min	11 %
Dry Hop	lunga	80 g	7 day(s)	11 %

Yeasts

Name	Type	Form	Amount	Laboratory
Safale S-33	Ale	Dry	11.5 g	Fermentis