

Koźlak dubeltowy (do wymrażania)

- Gravity **18 BLG**
- ABV **7.7 %**
- IBU **20**
- SRM **8**
- Style **Doppelbock**

Batch size

- Expected quantity of finished beer **90 liter(s)**
- Trub loss **5 %**
- Size with trub loss **94.5 liter(s)**
- Boil time **60 min**
- Evaporation rate **10 %/h**
- Boil size **113.8 liter(s)**

Mash information

- Mash efficiency **75 %**
- Liquor-to-grist ratio **2.7 liter(s) / kg**
- Mash size **89.6 liter(s)**
- Total mash volume **122.8 liter(s)**

Steps

- Temp **62 C**, Time **20 min**
- Temp **72 C**, Time **40 min**
- Temp **78 C**, Time **1 min**

Mash step by step

- Heat up **89.6 liter(s)** of strike water to **69.8C**
- Add grains
- Keep mash **20 min** at **62C**
- Keep mash **40 min** at **72C**
- Keep mash **1 min** at **78C**
- Sparge using **57.4 liter(s)** of **76C** water or to achieve **113.8 liter(s)** of wort

Fermentables

Type	Name	Amount	Yield	EBC
Grain	Vienna Malt	17 kg (51.2%)	78 %	8
Grain	Munich Malt	8 kg (24.1%)	80 %	18
Grain	Pilzneński	8 kg (24.1%)	81 %	4
Grain	Briess - Carabrown Malt	0.2 kg (0.6%)	79 %	108

Hops

Use for	Name	Amount	Time	Alpha acid
Boil	Marynka	100 g	60 min	10 %

Yeasts

Name	Type	Form	Amount	Laboratory
Wyeast - Bohemian Lager	Lager	Liquid	775 ml	Wyeast Labs