

# Bawarki lubią brąz

- Gravity **11.2 BLG**
- ABV **4.5 %**
- IBU **31**
- SRM **11.8**
- Style **Munich Dunkel**

## Batch size

- Expected quantity of finished beer **18 liter(s)**
- Trub loss **5 %**
- Size with trub loss **18.9 liter(s)**
- Boil time **120 min**
- Evaporation rate **10 %/h**
- Boil size **24.8 liter(s)**

## Mash information

- Mash efficiency **75 %**
- Liquor-to-grist ratio **3.75 liter(s) / kg**
- Mash size **15 liter(s)**
- Total mash volume **19 liter(s)**

## Steps

- Temp **65 C**, Time **60 min**
- Temp **78 C**, Time **8 min**

## Mash step by step

- Heat up **15 liter(s)** of strike water to **71C**
- Add grains
- Keep mash **60 min** at **65C**
- Keep mash **8 min** at **78C**
- Sparge using **13.8 liter(s)** of **76C** water or to achieve **24.8 liter(s)** of wort

## Fermentables

Type	Name	Amount	Yield	EBC
Grain	Weyermann - Pilsner Malt	1.2 kg (30%)	81 %	5
Grain	Monachijski	2.45 kg (61.3%)	80 %	16
Grain	Carahell	0.15 kg (3.8%)	77 %	26
Grain	Caraaroma	0.2 kg (5%)	78 %	400

## Hops

Use for	Name	Amount	Time	Alpha acid
Boil	Mount Hood	30 g	55 min	4.7 %
Boil	Hallertau Blanc	15 g	15 min	9.6 %
Boil	Hallertau Blanc	15 g	5 min	9.6 %

## Yeasts

Name	Type	Form	Amount	Laboratory
WLP833 - German Bock Lager Yeast	Lager	Slant	200 ml	White Labs

## Notes

- Wszystkie słody Weyermanna.  
Surowce na 20l, gotowanie 120 minut.  
15 minut przed końcem gotowania 1/2 tabl. Whirlflock + pożywka.

BLG początkowe 13.5-14BLG po rozcieńczeniu. Wyszło jakieś 15l-16l brzezki.  
Ekstrakt końcowy 4.0  
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