bock

- Gravity **16.1 BLG**
- ABV **6.8 %**
- IBU **23**
- SRM **15.3**
- Style **Traditional Bock**

Batch size

- Expected quantity of finished beer **32 liter(s)**
- Trub loss **5 %**
- Size with trub loss **33.6 liter(s)**
- Boil time **60 min**
- Evaporation rate **10 %/h**
- Boil size **40.5 liter(s)**

Mash information

- Mash efficiency **75 %**
- Liquor-to-grist ratio **3 liter(s) / kg**
- Mash size **31.2 liter(s)**
- Total mash volume **41.6 liter(s)**

Steps

- Temp **55 C**, Time **10 min**
- Temp **65 C**, Time **40 min**
- Temp **72 C**, Time **20 min**
- Temp **78 C**, Time **2 min**

Mash step by step

- Heat up **31.2 liter(s)** of strike water to **60.8C**
- Add grains
- Keep mash **10 min** at **55C**
- Keep mash **40 min** at **65C**
- Keep mash **20 min** at **72C**
- Keep mash **2 min** at **78C**
- Sparge using **19.7 liter(s)** of **76C** water or to achieve **40.5 liter(s)** of wort

Fermentables

Type	Name	Amount	Yield	EBC
Grain	Pilzneński	5 kg *(48.1%)*	81 %	4
Grain	Strzegom Monachijski typ I	2 kg *(19.2%)*	79 %	16
Grain	Strzegom Karmel 30	2 kg *(19.2%)*	75 %	30
Grain	Strzegom karmel 600	0.25 kg *(2.4%)*	75 %	150
Grain	Strzegom Czekoladowy ciemny	0.15 kg *(1.4%)*	68 %	1200
Grain	Pszeniczny	1 kg *(9.6%)*	85 %	4

Hops

Use for	Name	Amount	Time	Alpha acid
Boil	Saaz (Czech Republic)	20 g	60 min	4.5 %
Boil	Marynka	30 g	30 min	10 %
Boil	Hallertau	20 g	30 min	4.5 %

Yeasts

Recipe has been printed via **BREWNESS.com** - a complex online solution for homebrewers to track brewing process easily.

Name	Type	Form	Amount	Laboratory
FM31 Bawarska Dolina	Lager	Liquid	30 ml	Fermentum Mobile