

ciemne

- Gravity **15 BLG**
- ABV **6.2 %**
- IBU **80**
- SRM **11**

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 **80 %**
- Liquor-to-grist ratio **3 liter(s) / kg**
- Mash size **18 liter(s)**
- Total mash volume **24 liter(s)**

Steps

- Temp **52 C**, Time **10 min**
- Temp **62 C**, Time **20 min**
- Temp **72 C**, Time **40 min**
- Temp **78 C**, Time **5 min**

Mash step by step

- Heat up **18 liter(s)** of strike water to **57.3C**
- Add grains
- Keep mash **10 min** at **52C**
- Keep mash **20 min** at **62C**
- Keep mash **40 min** at **72C**
- Keep mash **5 min** at **78C**
- Sparge using **15.8 liter(s)** of **76C** water or to achieve **27.8 liter(s)** of wort

Fermentables

Type	Name	Amount	Yield	EBC
Grain	Strzegom Monachijski typ II	5.01 kg (83.4%)	79 %	22
Grain	Monachijski Ciemny Steinbach	1 kg (16.6%)	100 %	30

Hops

Use for	Name	Amount	Time	Alpha acid
Boil	Magnum	50 g	50 min	13.5 %
Boil	Cascade	20 g	30 min	6 %
Boil	Citra	20 g	10 min	12 %
Boil	Styrian Golding	30 g	10 min	3.6 %
Boil	Saaz (Czech Republic)	10 g	10 min	4.5 %

Yeasts

Name	Type	Form	Amount	Laboratory
Mangrove Jack's M07 British Ale	Ale	Dry	10 g	Mangrove Jack's