

Kowboj

- Gravity **12.6 BLG**
- ABV **5.1 %**
- IBU **40**
- SRM **3.4**
- Style **American Pale Ale**

Batch size

- Expected quantity of finished beer **20 liter(s)**
- Trub loss **5 %**
- Size with trub loss **21 liter(s)**
- Boil time **60 min**
- Evaporation rate **10 %/h**
- Boil size **25.3 liter(s)**

Mash information

- Mash efficiency **78 %**
- Liquor-to-grist ratio **3 liter(s) / kg**
- Mash size **14.4 liter(s)**
- Total mash volume **19.2 liter(s)**

Steps

- Temp **68 C**, Time **45 min**

Mash step by step

- Heat up **14.4 liter(s)** of strike water to **76C**
- Add grains
- Keep mash **45 min** at **68C**
- Sparge using **15.7 liter(s)** of **76C** water or to achieve **25.3 liter(s)** of wort

Fermentables

Type	Name	Amount	Yield	EBC
Grain	Słód Pale Ale Strzegom	3.2 kg (66.7%)	80 %	4
Grain	BESTMALZ - Best Heidelberg	1.6 kg (33.3%)	80.5 %	3

Hops

Use for	Name	Amount	Time	Alpha acid
Boil	Magnat	25 g	60 min	13.2 %
Aroma (end of boil)	Citra	30 g	1 min	12 %
Aroma (end of boil)	Mosaic	20 g	1 min	10 %
Aroma (end of boil)	Amarillo	30 g	1 min	9.5 %
Dry Hop	Citra	30 g	3 day(s)	12 %
Dry Hop	Mosaic	12 g	3 day(s)	10 %
Dry Hop	Amarillo	30 g	3 day(s)	9.5 %

Yeasts

Name	Type	Form	Amount	Laboratory
Safale US-05	Ale	Dry	11 g	Fermentis