

Czarna Pantera

- Gravity **12.6 BLG**
- ABV **5.1 %**
- IBU **48**
- SRM **4.8**
- 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 **15 %/h**
- Boil size **26.4 liter(s)**

Mash information

- Mash efficiency **75 %**
- Liquor-to-grist ratio **3 liter(s) / kg**
- Mash size **14.4 liter(s)**
- Total mash volume **19.2 liter(s)**

Steps

- Temp **67 C**, Time **60 min**
- Temp **76 C**, Time **30 min**

Mash step by step

- Heat up **14.4 liter(s)** of strike water to **74.8C**
- Add grains
- Keep mash **60 min** at **67C**
- Keep mash **30 min** at **76C**
- Sparge using **16.8 liter(s)** of **76C** water or to achieve **26.4 liter(s)** of wort

Fermentables

Type	Name	Amount	Yield	EBC
Grain	Weyermann - Pale Ale Malt	4.5 kg (93.8%)	85 %	7
Grain	Weyermann - Carapils	0.3 kg (6.3%)	78 %	4

Hops

Use for	Name	Amount	Time	Alpha acid
Boil	Dr Rudi	30 g	55 min	11.8 %
Boil	Kohatu	10 g	5 min	7.8 %
Boil	Dr Rudi	20 g	5 min	11.8 %
Aroma (end of boil)	WAI-ITI	10 g	5 min	4.1 %
Aroma (end of boil)	Dr Rudi	10 g	5 min	11.8 %
Dry Hop	Kohatu	20 g	5 day(s)	7.8 %
Dry Hop	WAI-ITI	20 g	5 day(s)	4.1 %

Yeasts

Name	Type	Form	Amount	Laboratory
Safale US-05	Ale	Dry	11.5 g	Fermentis