Modern bitter

- Gravity **12.1 BLG**
- ABV **4.9 %**
- IBU **45**
- SRM **5.2**
- Style **American Pale Ale**

Batch size

- Expected quantity of finished beer **18 liter(s)**
- Trub loss **5 %**
- Size with trub loss **18.9 liter(s)**
- Boil time **60 min**
- Evaporation rate **10 %/h**
- Boil size **22.8 liter(s)**

Mash information

- Mash efficiency **75 %**
- Liquor-to-grist ratio **3 liter(s) / kg**
- Mash size **13.4 liter(s)**
- Total mash volume **17.9 liter(s)**

Fermentables

Type	Name	Amount	Yield	EBC
Grain	Viking Pale Ale malt	4.2 kg *(93.8%)*	77 %	5
Grain	Pszeniczny	0.2 kg *(4.5%)*	80 %	4
Grain	Karmelowy żytni Strzegom	0.08 kg *(1.8%)*	75 %	150

Hops

Use for	Name	Amount	Time	Alpha acid
Boil	Chinook	15 g	60 min	13 %
Boil	Chinook	20 g	15 min	13 %
Aroma (end of boil)	Chinook	15 g	5 min	13 %
Dry Hop	Citra	30 g	4 day(s)	12 %
Dry Hop	Citra	70 g	4 day(s)	12 %

Yeasts

Name	Type	Form	Amount	Laboratory
us-05	Ale	Dry	11.5 g	---

Notes

- ziarno zacierane ponad 70min do negatynej próby jodowej
  wyszło 18l
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