

# singel hop

- Gravity **15 BLG**
- ABV **6.2 %**
- IBU **67**
- SRM **31**
- Style **Black IPA**

## 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 **80 %**
- Liquor-to-grist ratio **3 liter(s) / kg**
- Mash size **17.1 liter(s)**
- Total mash volume **22.8 liter(s)**

## Steps

- Temp **64 C**, Time **50 min**
- Temp **72 C**, Time **10 min**

## Mash step by step

- Heat up **17.1 liter(s)** of strike water to **71.3C**
- Add grains
- Keep mash **50 min** at **64C**
- Keep mash **10 min** at **72C**
- Sparge using **13.9 liter(s)** of **76C** water or to achieve **25.3 liter(s)** of wort

## Fermentables

Type	Name	Amount	Yield	EBC
Grain	Viking Pale Ale malt	5 kg (87.7%)	80 %	5
Grain	carared	0.2 kg (3.5%)	80 %	50
Grain	chcolade	0.2 kg (3.5%)	80 %	900
Grain	Strzegom Barwiący	0.3 kg (5.3%)	68 %	1300

## Hops

Use for	Name	Amount	Time	Alpha acid
Boil	nectaron	40 g	60 min	9.9 %
Aroma (end of boil)	nectaron	40 g	25 min	9.9 %
Aroma (end of boil)	nectarion	50 g	0 min	9.9 %
Dry Hop	nectarion	20 g	3 day(s)	9.9 %

## Yeasts

Name	Type	Form	Amount	Laboratory
starder f52	Ale	Liquid	1000 ml	fm