

## Full Aroma Hops

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- Gravity **12.9 BLG**
- ABV **5.2 %**
- IBU **28**
- SRM **3.5**

### Batch size

- Expected quantity of finished beer **50 liter(s)**
- Trub loss **5 %**
- Size with trub loss **52.5 liter(s)**
- Boil time **60 min**
- Evaporation rate **8.5 %/h**
- Boil size **63.5 liter(s)**

### Mash information

- Mash efficiency **80 %**
- Liquor-to-grist ratio **3.5 liter(s) / kg**
- Mash size **42 liter(s)**
- Total mash volume **54 liter(s)**

### Steps

- Temp **63 C**, Time **15 min**
- Temp **72 C**, Time **45 min**

### Mash step by step

- Heat up **42 liter(s)** of strike water to **69.1C**
- Add grains
- Keep mash **15 min** at **63C**
- Keep mash **45 min** at **72C**
- Sparge using **33.5 liter(s)** of **76C** water or to achieve **63.5 liter(s)** of wort

### Fermentables

Type	Name	Amount	Yield	EBC
Grain	Pilzneński	12 kg (100%)	81 %	4

### Hops

Use for	Name	Amount	Time	Alpha acid
Boil	Magnum	30 g	60 min	11.5 %
Boil	Sybilla	50 g	20 min	6 %
Boil	Lubelski	50 g	20 min	4 %
Boil	Sybilla	25 g	1 min	6 %
Boil	Lubelski	25 g	1 min	4 %

### Yeasts

Name	Type	Form	Amount	Laboratory
Safale US-05	Ale	Slant	200 ml	---