

## Full Aroma Hops #2

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- Gravity **12.1 BLG**
- ABV **4.9 %**
- IBU **57**
- SRM **4**
- Style **Extra Special/Strong Bitter (English Pale Ale)**

### Batch size

- Expected quantity of finished beer **20 liter(s)**
- Trub loss **5 %**
- Size with trub loss **21 liter(s)**
- Boil time **90 min**
- Evaporation rate **10 %/h**
- Boil size **26.4 liter(s)**

### Mash information

- Mash efficiency **64 %**
- Liquor-to-grist ratio **3 liter(s) / kg**
- Mash size **16.6 liter(s)**
- Total mash volume **22.2 liter(s)**

### Steps

- Temp **40 C**, Time **20 min**
- Temp **62 C**, Time **10 min**
- Temp **72 C**, Time **45 min**
- Temp **76 C**, Time **10 min**

### Mash step by step

- Heat up **16.6 liter(s)** of strike water to **43.3C**
- Add grains
- Keep mash **20 min** at **40C**
- Keep mash **10 min** at **62C**
- Keep mash **45 min** at **72C**
- Keep mash **10 min** at **76C**
- Sparge using **15.4 liter(s)** of **76C** water or to achieve **26.4 liter(s)** of wort

### Fermentables

Type	Name	Amount	Yield	EBC
Grain	Pilzneński	5.55 kg (100%)	81 %	4

### Hops

Use for	Name	Amount	Time	Alpha acid
Boil	lunga	30 g	90 min	11 %
Boil	Lublin (Lubelski)	40 g	45 min	4 %
Boil	Lublin (Lubelski)	10 g	5 min	4 %
Dry Hop	Oktawia	30 g	4 day(s)	7.1 %

### Yeasts

Name	Type	Form	Amount	Laboratory
FM52 Amerykański Sen	Ale	Liquid	500 ml	Fermentum Mobile

### Extras

Type	Name	Amount	Use for	Time
Fining	mech irlandzki	5 g	Boil	10 min