

## Full Aroma Hops

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- Gravity **11.7 BLG**
- ABV **4.7 %**
- IBU **35**
- SRM **3.2**

### Batch size

- Expected quantity of finished beer **25 liter(s)**
- Trub loss **5 %**
- Size with trub loss **26.3 liter(s)**
- Boil time **90 min**
- Evaporation rate **10 %/h**
- Boil size **33.1 liter(s)**

### Mash information

- Mash efficiency **86.2 %**
- Liquor-to-grist ratio **3.2 liter(s) / kg**
- Mash size **16 liter(s)**
- Total mash volume **21 liter(s)**

### Steps

- Temp **60 C**, Time **10 min**
- Temp **70 C**, Time **45 min**
- Temp **10 C**, Time **75 min**

### Mash step by step

- Heat up **16 liter(s)** of strike water to **8.4C**
- Add grains
- Keep mash **75 min** at **10C**
- Keep mash **10 min** at **60C**
- Keep mash **45 min** at **70C**
- Sparge using **22.1 liter(s)** of **76C** water or to achieve **33.1 liter(s)** of wort

### Fermentables

Type	Name	Amount	Yield	EBC
Grain	Pilzneński	5 kg (100%)	81 %	4

### Hops

Use for	Name	Amount	Time	Alpha acid
Boil	Marynka	45 g	90 min	6.8 %
Boil	Lublin (Lubelski)	20 g	30 min	2.8 %
Boil	Lublin (Lubelski)	20 g	10 min	2.8 %
Aroma (end of boil)	Lublin (Lubelski)	30 g	0 min	2.8 %
Dry Hop	Marynka	15 g	3 day(s)	6.8 %

### Yeasts

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