

## Full aroma hops II

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- Gravity **14.5 BLG**
- ABV **6 %**
- IBU **44**
- SRM **4**

### Batch size

- Expected quantity of finished beer **24 liter(s)**
- Trub loss **5 %**
- Size with trub loss **25.7 liter(s)**
- Boil time **60 min**
- Evaporation rate **10 %/h**
- Boil size **30.9 liter(s)**

### Mash information

- Mash efficiency **75 %**
- Liquor-to-grist ratio **3.5 liter(s) / kg**
- Mash size **24.5 liter(s)**
- Total mash volume **31.5 liter(s)**

### Steps

- Temp **62 C**, Time **10 min**
- Temp **72 C**, Time **45 min**
- Temp **76 C**, Time **15 min**

### Mash step by step

- Heat up **24.5 liter(s)** of strike water to **68C**
- Add grains
- Keep mash **10 min** at **62C**
- Keep mash **45 min** at **72C**
- Keep mash **15 min** at **76C**
- Sparge using **13.4 liter(s)** of **76C** water or to achieve **30.9 liter(s)** of wort

### Fermentables

Type	Name	Amount	Yield	EBC
Grain	Pilzneński	7 kg (100%)	81 %	4

### Hops

Use for	Name	Amount	Time	Alpha acid
Boil	Magnum	20 g	90 min	12 %
Boil	Lublin (Lubelski)	40 g	50 min	2.8 %
Boil	Magnum	20 g	15 min	12 %
Boil	Chinook	10 g	10 min	13 %
Dry Hop	Magnum	10 g	4 day(s)	12 %
Dry Hop	Chinook	20 g	4 day(s)	13 %

### Yeasts

Name	Type	Form	Amount	Laboratory
Danstar - Windsor Ale	Ale	Slant	1000 ml	Danstar