

## 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    |