

# #1 Full Aroma Hops

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- Gravity **13.3 BLG**
- ABV ---
- IBU **54**
- SRM **4.9**
- Style **Extra Special/Strong Bitter (English Pale Ale)**

## Batch size

- Expected quantity of finished beer **20.5 liter(s)**
- Trub loss **5 %**
- Size with trub loss **21.5 liter(s)**
- Boil time **90 min**
- Evaporation rate **10 %/h**
- Boil size **25.4 liter(s)**

## Mash information

- Mash efficiency **62 %**
- Liquor-to-grist ratio **3.5 liter(s) / kg**
- Mash size **21 liter(s)**
- Total mash volume **27 liter(s)**

## Steps

- Temp **38 C**, Time **0 min**
- Temp **62 C**, Time **15 min**
- Temp **70 C**, Time **45 min**
- Temp **75 C**, Time **10 min**

## Mash step by step

- Heat up **21 liter(s)** of strike water to **40.6C**
- Add grains
- Keep mash **0 min** at **38C**
- Keep mash **15 min** at **62C**
- Keep mash **45 min** at **70C**
- Keep mash **10 min** at **75C**
- Sparge using **10.4 liter(s)** of **76C** water or to achieve **25.4 liter(s)** of wort

## Fermentables

| Type  | Name                | Amount      | Yield | EBC |
|-------|---------------------|-------------|-------|-----|
| Grain | Strzegom Pilzneński | 6 kg (100%) | 80 %  | 4   |

## Hops

| Use for             | Name              | Amount | Time     | Alpha acid |
|---------------------|-------------------|--------|----------|------------|
| Boil                | Marynka           | 31 g   | 90 min   | 8.8 %      |
| Aroma (end of boil) | Lublin (Lubelski) | 44 g   | 45 min   | 4 %        |
| Aroma (end of boil) | Lublin (Lubelski) | 13 g   | 10 min   | 4 %        |
| Dry Hop             | Marynka           | 15 g   | 5 day(s) | 8.8 %      |