

# #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 %