

# mój atak chmielu

- Gravity **13.8 BLG**
- ABV ---
- IBU **71**
- SRM **8.2**
- Style **English IPA**

## Batch size

- Expected quantity of finished beer **20 liter(s)**
- Trub loss **5 %**
- Size with trub loss **21 liter(s)**
- Boil time **60 min**
- Evaporation rate **10 %/h**
- Boil size **25.3 liter(s)**

## Mash information

- Mash efficiency **75 %**
- Liquor-to-grist ratio **3 liter(s) / kg**
- Mash size **14.4 liter(s)**
- Total mash volume **19.2 liter(s)**

## Steps

- Temp **66 C**, Time **60 min**
- Temp **72 C**, Time **10 min**
- Temp **76 C**, Time **5 min**

## Mash step by step

- Heat up **14.4 liter(s)** of strike water to **73.7C**
- Add grains
- Keep mash **60 min** at **66C**
- Keep mash **10 min** at **72C**
- Keep mash **5 min** at **76C**
- Sparge using **15.7 liter(s)** of **76C** water or to achieve **25.3 liter(s)** of wort

## Fermentables

Type	Name	Amount	Yield	EBC
Grain	Weyermann - Pale Ale Malt	4.5 kg (93.8%)	85 %	7
Grain	Caraamber	0.3 kg (6.3%)	75 %	59

## Hops

Use for	Name	Amount	Time	Alpha acid
Boil	Columbus/Tomahawk/Zeus	20 g	60 min	15.5 %
Boil	Admiral	5 g	60 min	14.3 %
Boil	Flyer	5 g	60 min	9.8 %
Aroma (end of boil)	English Golding	10 g	10 min	4.8 %
Aroma (end of boil)	Admiral	25 g	10 min	14.3 %
Aroma (end of boil)	Flyer	10 g	10 min	9.8 %
Whirlpool	Cascade	15 g	30 min	6 %
Whirlpool	English Golding	20 g	30 min	4.8 %

## Yeasts

Name	Type	Form	Amount	Laboratory
Safale S-04	Ale	Dry	11.5 g	Safale