

# #1

- Gravity **25.3 BLG**
- ABV ---
- IBU **76**
- SRM **40**

## Batch size

- Expected quantity of finished beer **20 liter(s)**
- Trub loss **10 %**
- Size with trub loss **22 liter(s)**
- Boil time **60 min**
- Evaporation rate **15 %/h**
- Boil size **25.3 liter(s)**

## Mash information

- Mash efficiency **80 %**
- Liquor-to-grist ratio **3 liter(s) / kg**
- Mash size **28.2 liter(s)**
- Total mash volume **37.6 liter(s)**

## Steps

- Temp **66 C**, Time **75 min**
- Temp **72 C**, Time **15 min**
- Temp **78 C**, Time **0 min**

## Mash step by step

- Heat up **28.2 liter(s)** of strike water to **73.7C**
- Add grains
- Keep mash **75 min** at **66C**
- Keep mash **15 min** at **72C**
- Keep mash **0 min** at **78C**
- Sparge using **6.5 liter(s)** of **76C** water or to achieve **25.3 liter(s)** of wort

## Fermentables

Type	Name	Amount	Yield	EBC
Grain	Pilzneński	7 kg (74.5%)	81 %	4
Grain	Strzegom Karmel 300	0.5 kg (5.3%)	70 %	299
Grain	Strzegom Czekoladowy ciemny	0.5 kg (5.3%)	68 %	1200
Grain	Pszeniczny	1 kg (10.6%)	85 %	4
Grain	Oats, Flaked	0.4 kg (4.3%)	80 %	2

## Hops

Use for	Name	Amount	Time	Alpha acid
Boil	lunga	100 g	60 min	11 %

## Extras

Type	Name	Amount	Use for	Time
Flavor	kakaowiec	30 g	Secondary	30 day(s)
Flavor	wanilia	30 g	Secondary	30 day(s)
Flavor	płatki dębowe	30 g	Secondary	30 day(s)