

# Pils

- Gravity **12.9 BLG**
- ABV **5.2 %**
- IBU **32**
- SRM **4.7**
- Style **German Pilsner (Pils)**

## Batch size

- Expected quantity of finished beer **20 liter(s)**
- Trub loss **3 %**
- Size with trub loss **21.2 liter(s)**
- Boil time **60 min**
- Evaporation rate **10 %/h**
- Boil size **25.5 liter(s)**

## Mash information

- Mash efficiency **90 %**
- Liquor-to-grist ratio **3 liter(s) / kg**
- Mash size **12.9 liter(s)**
- Total mash volume **17.2 liter(s)**

## Steps

- Temp **62 C**, Time **50 min**
- Temp **78 C**, Time **10 min**

## Mash step by step

- Heat up **12.9 liter(s)** of strike water to **69C**
- Add grains
- Keep mash **50 min** at **62C**
- Keep mash **10 min** at **78C**
- Sparge using **16.9 liter(s)** of **76C** water or to achieve **25.5 liter(s)** of wort

## Fermentables

| Type  | Name                  | Amount       | Yield | EBC |
|-------|-----------------------|--------------|-------|-----|
| Grain | Viking Pale Ale malt  | 2 kg (46.5%) | 80 %  | 5   |
| Grain | Pszeniczny            | 1 kg (23.3%) | 85 %  | 4   |
| Grain | Strzegom Wiedeński    | 1 kg (23.3%) | 79 %  | 10  |
| Grain | Karmelowy Jasny 30EBC | 0.3 kg (7%)  | 75 %  | 30  |

## Hops

| Use for   | Name    | Amount | Time   | Alpha acid |
|-----------|---------|--------|--------|------------|
| Boil      | Marynka | 20 g   | 60 min | 9.5 %      |
| Whirlpool | Marynka | 30 g   | 30 min | 9.5 %      |

## Yeasts

| Name   | Type  | Form  | Amount | Laboratory |
|--------|-------|-------|--------|------------|
| w34/70 | Lager | Slant | 150 ml | Fermentis  |

## Notes

- Fermentacja 10C  
Whirpol 77C - 30min  
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