

Pils

- Gravity **12.1 BLG**
- ABV **4.9 %**
- IBU **35**
- SRM **6.4**
- Style **German Pilsner (Pils)**

Batch size

- Expected quantity of finished beer **10 liter(s)**
- Trub loss **10 %**
- Size with trub loss **11.5 liter(s)**
- Boil time **60 min**
- Evaporation rate **10 %/h**
- Boil size **14.3 liter(s)**

Mash information

- Mash efficiency **70 %**
- Liquor-to-grist ratio **4 liter(s) / kg**
- Mash size **11.6 liter(s)**
- Total mash volume **14.5 liter(s)**

Steps

- Temp **62 C**, Time **40 min**
- Temp **72 C**, Time **20 min**
- Temp **76 C**, Time **10 min**

Mash step by step

- Heat up **11.6 liter(s)** of strike water to **67.3C**
- Add grains
- Keep mash **40 min** at **62C**
- Keep mash **20 min** at **72C**
- Keep mash **10 min** at **76C**
- Sparge using **5.6 liter(s)** of **76C** water or to achieve **14.3 liter(s)** of wort

Fermentables

| Type | Name | Amount | Yield | EBC |
|-------|----------------------|-----------------|-------|-----|
| Grain | Pilzneński | 2.3 kg (79.3%) | 81 % | 4 |
| Grain | Weyermann - Carapils | 0.45 kg (15.5%) | 78 % | 4 |
| Grain | Biscuit Malt | 0.1 kg (3.4%) | 79 % | 45 |
| Grain | Caraaroma | 0.05 kg (1.7%) | 78 % | 300 |

Hops

| Use for | Name | Amount | Time | Alpha acid |
|---------------------|-----------------------|--------|----------|------------|
| Boil | Magnum | 10 g | 60 min | 13.5 % |
| Aroma (end of boil) | Tettnang | 15 g | 5 min | 4 % |
| Aroma (end of boil) | Saaz (Czech Republic) | 10 g | 5 min | 4.5 % |
| Aroma (end of boil) | lunga | 10 g | 5 min | 11 % |
| Dry Hop | lunga | 10 g | 3 day(s) | 11 % |

wrzuciłem w dzień ustawienia na termostacie CC

Yeasts

| Name | Type | Form | Amount | Laboratory |
|------|------|------|--------|------------|
|------|------|------|--------|------------|

| | | | | |
|--------|-------|-----|------|---------|
| W34/70 | Lager | Dry | 10 g | Gozdawa |
|--------|-------|-----|------|---------|

Extras

| Type | Name | Amount | Use for | Time |
|-------------|-------|--------|----------|------|
| Water Agent | wit c | 2 g | Bottling | --- |