

KassApa3

- Gravity **12.1 BLG**
- ABV **4.9 %**
- IBU **25**
- SRM **10.3**
- Style **American Pale Ale**

Batch size

- Expected quantity of finished beer **12 liter(s)**
- Trub loss **5 %**
- Size with trub loss **12.6 liter(s)**
- Boil time **65 min**
- Evaporation rate **10 %/h**
- Boil size **15.3 liter(s)**

Mash information

- Mash efficiency **65 %**
- Liquor-to-grist ratio **3 liter(s) / kg**
- Mash size **10.2 liter(s)**
- Total mash volume **13.6 liter(s)**

Steps

- Temp **64 C**, Time **45 min**
- Temp **72 C**, Time **15 min**
- Temp **78 C**, Time **5 min**

Mash step by step

- Heat up **10.2 liter(s)** of strike water to **71.3C**
- Add grains
- Keep mash **45 min** at **64C**
- Keep mash **15 min** at **72C**
- Keep mash **5 min** at **78C**
- Sparge using **8.5 liter(s)** of **76C** water or to achieve **15.3 liter(s)** of wort

Fermentables

| Type | Name | Amount | Yield | EBC |
|-------|----------------------------|-----------------|--------|-----|
| Grain | Briess - Pale Ale Malt | 1.78 kg (52.5%) | 80 % | 7 |
| Grain | Weyermann - Carawheat | 0.18 kg (5.3%) | 77 % | 115 |
| Grain | Acid Malt | 0.03 kg (0.9%) | 58.7 % | 6 |
| Grain | Viking melanoidynowy | 0.14 kg (4.1%) | 75 % | 60 |
| Grain | Strzegom Wiedeński | 0.27 kg (8%) | 79 % | 10 |
| Grain | Rice, Flaked | 0.11 kg (3.2%) | 70 % | 2 |
| Grain | Monachijski | 0.44 kg (13%) | 80 % | 16 |
| Grain | Oats, Flaked | 0.22 kg (6.5%) | 80 % | 2 |
| Grain | Wheat, Flaked | 0.18 kg (5.3%) | 77 % | 4 |
| Grain | Strzegom Czekoladowy jasny | 0.04 kg (1.2%) | 68 % | 400 |

Hops

| Use for | Name | Amount | Time | Alpha acid |
|---------|-----------|--------|--------|------------|
| Boil | Hallertau | 20 g | 60 min | 4.5 % |
| Boil | Cascade | 10 g | 30 min | 6 % |

Yeasts

| Name | Type | Form | Amount | Laboratory |
|--------|------|-------|--------|------------|
| WLP004 | Ale | Slant | 100 ml | --- |