

Micro PA - 4

- Gravity **10.7 BLG**
- ABV **4.3 %**
- IBU **39**
- SRM **4.6**
- Style **American Pale Ale**

Batch size

- Expected quantity of finished beer **20 liter(s)**
- Trub loss **5 %**
- Size with trub loss **21 liter(s)**
- Boil time **75 min**
- Evaporation rate **10 %/h**
- Boil size **25.9 liter(s)**

Mash information

- Mash efficiency **80 %**
- Liquor-to-grist ratio **3.5 liter(s) / kg**
- Mash size **14 liter(s)**
- Total mash volume **18 liter(s)**

Steps

- Temp **55 C**, Time **1 min**
- Temp **68 C**, Time **60 min**
- Temp **76 C**, Time **1 min**

Mash step by step

- Heat up **14 liter(s)** of strike water to **60C**
- Add grains
- Keep mash **1 min** at **55C**
- Keep mash **60 min** at **68C**
- Keep mash **1 min** at **76C**
- Sparge using **15.9 liter(s)** of **76C** water or to achieve **25.9 liter(s)** of wort

Fermentables

| Type | Name | Amount | Yield | EBC |
|-------|------------------|----------------|-------|-----|
| Grain | Pale Ale Best | 3.5 kg (87.5%) | 80 % | 6 |
| Grain | Wheat, Flaked | 0.3 kg (7.5%) | 77 % | 4 |
| Grain | Cara aroma (red) | 0.2 kg (5%) | 78 % | 50 |

Hops

| Use for | Name | Amount | Time | Alpha acid |
|------------|------------|--------|--------|------------|
| First Wort | Perle | 1 g | 60 min | 9.7 % |
| Boil | Cascade | 10 g | 10 min | 5.9 % |
| Boil | Nectaron | 10 g | 10 min | 9.4 % |
| Boil | Centennial | 10 g | 10 min | 10.1 % |
| Whirlpool | Cascade | 30 g | 20 min | 5.9 % |
| Whirlpool | Nectaron | 30 g | 20 min | 9.4 % |
| Whirlpool | Centennial | 30 g | 20 min | 10.1 % |

Yeasts

| Name | Type | Form | Amount | Laboratory |
|-------------------------------|------|--------|--------|-------------|
| Wyeast - 1728 Scottish Ale | Ale | Liquid | 100 ml | Wyeast Labs |

Extras

| Type | Name | Amount | Use for | Time |
|--------|---------|--------|---------|--------|
| Flavor | Laktoza | 200 g | Boil | 60 min |