

xd

- Gravity **11.2 BLG**
- ABV **4.5 %**
- IBU **40**
- SRM **5.3**
- Style **American Pale Ale**

Batch size

- Expected quantity of finished beer **22 liter(s)**
- Trub loss **10 %**
- Size with trub loss **25.1 liter(s)**
- Boil time **60 min**
- Evaporation rate **15 %/h**
- Boil size **31.4 liter(s)**

Mash information

- Mash efficiency **80 %**
- Liquor-to-grist ratio **3 liter(s) / kg**
- Mash size **14.3 liter(s)**
- Total mash volume **19 liter(s)**

Steps

- Temp **58 C**, Time **10 min**
- Temp **62 C**, Time **30 min**
- Temp **72 C**, Time **20 min**
- Temp **78 C**, Time **5 min**

Mash step by step

- Heat up **14.3 liter(s)** of strike water to **64.3C**
- Add grains
- Keep mash **10 min** at **58C**
- Keep mash **30 min** at **62C**
- Keep mash **20 min** at **72C**
- Keep mash **5 min** at **78C**
- Sparge using **21.9 liter(s)** of **76C** water or to achieve **31.4 liter(s)** of wort

Fermentables

| Type | Name | Amount | Yield | EBC |
|-------|-----------------------------|----------------|-------|-----|
| Grain | Weyermann - Vienna Malt | 1 kg (21.1%) | 81 % | 8 |
| Grain | Weyermann - Pale Ale Malt | 2.5 kg (52.6%) | 85 % | 7 |
| Grain | Weyermann - Pale Wheat Malt | 1 kg (21.1%) | 85 % | 5 |
| Grain | Weyermann - Melanoiden Malt | 0.25 kg (5.3%) | 81 % | 70 |

Hops

| Use for | Name | Amount | Time | Alpha acid |
|---------------------|--------------|--------|--------|------------|
| Aroma (end of boil) | Enigma (AUS) | 15 g | 20 min | 17.2 % |
| Aroma (end of boil) | Enigma (AUS) | 15 g | 12 min | 17.2 % |
| Aroma (end of boil) | Enigma (AUS) | 20 g | 7 min | 17.2 % |
| Aroma (end of boil) | Enigma (AUS) | 25 g | 3 min | 17.2 % |
| Aroma (end of boil) | Enigma (AUS) | 25 g | 0 min | 17.2 % |

Yeasts

| Name | Type | Form | Amount | Laboratory |
|-----------------------------------|-------------|-------------|---------------|-------------------|
| Mangrove Jack's M44 US West Coast | Ale | Dry | 10 g | Mangrove Jack's |

Extras

| Type | Name | Amount | Use for | Time |
|-------------|----------------|---------------|----------------|-------------|
| Fining | Mech irlandzki | 5 g | Boil | 10 min |