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- Gravity **11.9 BLG**
- ABV **4.8 %**
- IBU **19**
- SRM **6**
- Style **American Pale Ale**

Batch size

- Expected quantity of finished beer **20 liter(s)**
- Trub loss **5 %**
- Size with trub loss **22 liter(s)**
- Boil time **60 min**
- Evaporation rate **10 %/h**
- Boil size **26.4 liter(s)**

Mash information

- Mash efficiency **75 %**
- Liquor-to-grist ratio **3 liter(s) / kg**
- Mash size **15 liter(s)**
- Total mash volume **20 liter(s)**

Steps

- Temp **67 C**, Time **50 min**
- Temp **72 C**, Time **10 min**
- Temp **76 C**, Time **4 min**

Mash step by step

- Heat up **15 liter(s)** of strike water to **74.8C**
- Add grains
- Keep mash **50 min** at **67C**
- Keep mash **10 min** at **72C**
- Keep mash **4 min** at **76C**
- Sparge using **16.4 liter(s)** of **76C** water or to achieve **26.4 liter(s)** of wort

Fermentables

| Type | Name | Amount | Yield | EBC |
|-------|----------------------------------|--------------|-------|-----|
| Grain | Viking Pale Ale malt | 2.5 kg (50%) | 80 % | 5 |
| Grain | Weyermann - Pilsner Malt Premium | 2 kg (40%) | 81 % | 3 |
| Grain | Weyermann - Caraamber | 0.5 kg (10%) | 75 % | 65 |

Hops

| Use for | Name | Amount | Time | Alpha acid |
|---------------------|----------|--------|--------|------------|
| Boil | Amarillo | 15 g | 60 min | 7.4 % |
| Boil | Cascade | 15 g | 30 min | 6 % |
| Aroma (end of boil) | Citra | 15 g | 0 min | 12 % |

Yeasts

| Name | Type | Form | Amount | Laboratory |
|-------|------|------|--------|------------|
| US-05 | Ale | Dry | 11.5 g | Fermentis |