

Warka #3

- Gravity **12.9 BLG**
- ABV **5.2 %**
- IBU **30**
- SRM **4.3**
- Style **American Wheat or Rye Beer**

Batch size

- Expected quantity of finished beer **20 liter(s)**
- Trub loss **5 %**
- Size with trub loss **21 liter(s)**
- Boil time **60 min**
- Evaporation rate **10 %/h**
- Boil size **25.3 liter(s)**

Mash information

- Mash efficiency **75 %**
- Liquor-to-grist ratio **3.5 liter(s) / kg**
- Mash size **17.5 liter(s)**
- Total mash volume **22.5 liter(s)**

Steps

- Temp **64 C**, Time **70 min**
- Temp **72 C**, Time **10 min**
- Temp **78 C**, Time **0 min**

Mash step by step

- Heat up **17.5 liter(s)** of strike water to **70.3C**
- Add grains
- Keep mash **70 min** at **64C**
- Keep mash **10 min** at **72C**
- Keep mash **0 min** at **78C**
- Sparge using **12.8 liter(s)** of **76C** water or to achieve **25.3 liter(s)** of wort

Fermentables

| Type | Name | Amount | Yield | EBC |
|-------|---------------------------|--------------|-------|-----|
| Grain | Pszeniczny | 2.5 kg (50%) | --- % | 4 |
| Grain | Weyermann - Pale Ale Malt | 2.5 kg (50%) | 85 % | 7 |

Hops

| Use for | Name | Amount | Time | Alpha acid |
|---------------------|------------|--------|----------|------------|
| Boil | Centennial | 15 g | 60 min | 8.9 % |
| Aroma (end of boil) | Citra | 15 g | 15 min | 14.2 % |
| Aroma (end of boil) | Cascade PL | 15 g | 15 min | 5.5 % |
| Dry Hop | Citra | 35 g | 3 day(s) | 14.2 % |
| Dry Hop | Chinook | 22 g | 3 day(s) | 12.8 % |
| Dry Hop | Cascade PL | 10 g | 3 day(s) | 5.5 % |
| Dry Hop | Centennial | 11 g | 3 day(s) | 8.9 % |

Yeasts

| Name | Type | Form | Amount | Laboratory |
|-------|------|------|--------|------------|
| us 05 | Ale | Dry | 11.5 g | Safale |