

Rye APA

- Gravity **15.7 BLG**
- ABV **6.6 %**
- IBU **66**
- SRM **3**
- Style **American Pale Ale**

Batch size

- Expected quantity of finished beer **46 liter(s)**
- Trub loss **5 %**
- Size with trub loss **50.6 liter(s)**
- Boil time **60 min**
- Evaporation rate **5 %/h**
- Boil size **55.5 liter(s)**

Mash information

- Mash efficiency **90 %**
- Liquor-to-grist ratio **3 liter(s) / kg**
- Mash size **36 liter(s)**
- Total mash volume **48 liter(s)**

Steps

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

Mash step by step

- Heat up **36 liter(s)** of strike water to **71.3C**
- Add grains
- Keep mash **70 min** at **64C**
- Keep mash **10 min** at **72C**
- Keep mash **10 min** at **78C**
- Sparge using **31.5 liter(s)** of **76C** water or to achieve **55.5 liter(s)** of wort

Fermentables

| Type | Name | Amount | Yield | EBC |
|-------|----------------------|---------------|--------|-----|
| Grain | Briess - Pilsen Malt | 10 kg (83.3%) | 80.5 % | 2 |
| Grain | Rye, Flaked | 2 kg (16.7%) | 78.3 % | 4 |

Hops

| Use for | Name | Amount | Time | Alpha acid |
|---------------------|---------|--------|--------|------------|
| Boil | Warrior | 80 g | 60 min | 17.6 % |
| Aroma (end of boil) | citra | 25 g | 10 min | 9.5 % |
| Aroma (end of boil) | Citra | 25 g | 5 min | 12 % |
| Aroma (end of boil) | Citra | 50 g | 0 min | 12 % |
| Aroma (end of boil) | Warrior | 20 g | 0 min | 17.6 % |

Yeasts

| Name | Type | Form | Amount | Laboratory |
|-------|------|------|--------|------------|
| us-05 | Ale | Dry | 20 g | fermentis |