

Pumpnickel Porter

- Gravity **14.5 BLG**
- ABV **6 %**
- IBU **30**
- SRM **19**
- Style **Robust Porter**

Batch size

- Expected quantity of finished beer **20 liter(s)**
- Trub loss **5 %**
- Size with trub loss **21 liter(s)**
- Boil time **90 min**
- Evaporation rate **10 %/h**
- Boil size **26.4 liter(s)**

Mash information

- Mash efficiency **80 %**
- Liquor-to-grist ratio **3.5 liter(s) / kg**
- Mash size **14.3 liter(s)**
- Total mash volume **18.4 liter(s)**

Steps

- Temp **55 C**, Time **5 min**
- Temp **64 C**, Time **60 min**
- Temp **72 C**, Time **20 min**
- Temp **76 C**, Time **5 min**

Mash step by step

- Heat up **14.3 liter(s)** of strike water to **60C**
- Add grains
- Keep mash **5 min** at **55C**
- Keep mash **60 min** at **64C**
- Keep mash **20 min** at **72C**
- Keep mash **5 min** at **76C**
- Sparge using **16.2 liter(s)** of **76C** water or to achieve **26.4 liter(s)** of wort

Fermentables

| Type | Name | Amount | Yield | EBC |
|---------|--------------------|---------------|-------|------|
| Grain | Pale Ale Best | 3 kg (58.8%) | 80 % | 6 |
| Grain | Roggenmalz | 0.5 kg (9.8%) | 84 % | 2 |
| Grain | Cara aroma (red) | 0.1 kg (2%) | 78 % | 50 |
| Grain | Caraamber | 0.1 kg (2%) | 75 % | 70 |
| Grain | Caramunich II Best | 0.1 kg (2%) | 73 % | 120 |
| Grain | Rauch Malz Best | 0.1 kg (2%) | 77 % | 6 |
| Grain | Chocolate Best | 0.1 kg (2%) | 75 % | 900 |
| Grain | Carafa II Best | 0.1 kg (2%) | 65 % | 1100 |
| Adjunct | Pumpnickel | 1 kg (19.6%) | --- % | 50 |

Hops

| Use for | Name | Amount | Time | Alpha acid |
|---------------------|--------------------|--------|--------|------------|
| Boil | East Kent Goldings | 30 g | 60 min | 5.7 % |
| Boil | East Kent Goldings | 30 g | 15 min | 5.7 % |
| Aroma (end of boil) | East Kent Goldings | 30 g | 5 min | 5.7 % |