

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 %