

black widow porter

- Gravity **15.9 BLG**
- ABV ---
- IBU **30**
- SRM **34.7**
- Style **Robust Porter**

Batch size

- Expected quantity of finished beer **20 liter(s)**
- Trub loss **10 %**
- Size with trub loss **22 liter(s)**
- Boil time **60 min**
- Evaporation rate **15 %/h**
- Boil size **27.6 liter(s)**

Mash information

- Mash efficiency **70 %**
- Liquor-to-grist ratio **2.5 liter(s) / kg**
- Mash size **18.4 liter(s)**
- Total mash volume **25.7 liter(s)**

Steps

- Temp **67 C**, Time **90 min**
- Temp **78 C**, Time **1 min**

Mash step by step

- Heat up **18.4 liter(s)** of strike water to **76.4C**
- Add grains
- Keep mash **90 min** at **67C**
- Keep mash **1 min** at **78C**
- Sparge using **16.6 liter(s)** of **76C** water or to achieve **27.6 liter(s)** of wort

Fermentables

| Type | Name | Amount | Yield | EBC |
|-------|----------------------------|----------------|-------|-----|
| Grain | Briess - Pale Ale Malt | 5.5 kg (74.8%) | 80 % | 7 |
| Grain | Munich Malt | 0.7 kg (9.5%) | 80 % | 18 |
| Grain | Caramel/Crystal Malt - 40L | 0.45 kg (6.1%) | 74 % | 79 |
| Grain | WEYERMANN CARAFA SPECIAL I | 0.4 kg (5.4%) | 60 % | 900 |
| Grain | Black (Patent) Malt | 0.3 kg (4.1%) | 55 % | 985 |

Hops

| Use for | Name | Amount | Time | Alpha acid |
|---------|--------------------|--------|--------|------------|
| Boil | Willamette | 20 g | 60 min | 7.3 % |
| Boil | Marynka | 15 g | 60 min | 8.8 % |
| Boil | East Kent Goldings | 20 g | 15 min | 5.1 % |