

czarna dupa sm

- Gravity **13.3 BLG**
- ABV **5.5 %**
- IBU **33**
- SRM **38.1**
- Style **American Stout**

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 **85 %**
- Liquor-to-grist ratio **3.5 liter(s) / kg**
- Mash size **16.6 liter(s)**
- Total mash volume **21.4 liter(s)**

Steps

- Temp **67 C**, Time **60 min**
- Temp **75 C**, Time **10 min**

Mash step by step

- Heat up **16.6 liter(s)** of strike water to **73.7C**
- Add grains
- Keep mash **60 min** at **67C**
- Keep mash **10 min** at **75C**
- Sparge using **14.6 liter(s)** of **76C** water or to achieve **26.4 liter(s)** of wort

Fermentables

| Type | Name | Amount | Yield | EBC |
|-------|-------------------------------|----------------|-------|------|
| Grain | Viking Pale Ale malt | 1.5 kg (31.6%) | 80 % | 5 |
| Grain | Viking Malt Wędzony Czereśnią | 1 kg (21.1%) | 82 % | 10 |
| Grain | Żytni | 1.5 kg (31.6%) | 85 % | 8 |
| Grain | Strzegom Czekoladowy ciemny | 0.2 kg (4.2%) | 68 % | 1200 |
| Grain | Jęczmień palony | 0.35 kg (7.4%) | 55 % | 1400 |
| Grain | Strzegom Karmel 300 | 0.2 kg (4.2%) | 70 % | 299 |

Hops

| Use for | Name | Amount | Time | Alpha acid |
|---------|---------|--------|--------|------------|
| Boil | Marynka | 25 g | 60 min | 10 % |
| Boil | Marynka | 15 g | 10 min | 10.5 % |

Yeasts

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