

Strong FES

- Gravity **22.5 BLG**
- ABV ---
- IBU **52**
- SRM **96.6**
- Style **Foreign Extra Stout**

Batch size

- Expected quantity of finished beer **20 liter(s)**
- Trub loss **5 %**
- Size with trub loss **21 liter(s)**
- Boil time **60 min**
- Evaporation rate **10 %/h**
- Boil size **25.3 liter(s)**

Mash information

- Mash efficiency **75 %**
- Liquor-to-grist ratio **3 liter(s) / kg**
- Mash size **26.1 liter(s)**
- Total mash volume **34.8 liter(s)**

Steps

- Temp **64 C**, Time **45 min**
- Temp **70 C**, Time **30 min**
- Temp **78 C**, Time **10 min**

Mash step by step

- Heat up **26.1 liter(s)** of strike water to **71.3C**
- Add grains
- Keep mash **45 min** at **64C**
- Keep mash **30 min** at **70C**
- Keep mash **10 min** at **78C**
- Sparge using **7.9 liter(s)** of **76C** water or to achieve **25.3 liter(s)** of wort

Fermentables

| Type | Name | Amount | Yield | EBC |
|-------|-----------------------------|---------------|-------|------|
| Grain | Strzegom Pale Ale | 5 kg (57.5%) | 79 % | 6 |
| Grain | Pszeniczny | 1 kg (11.5%) | 85 % | 4 |
| Grain | Strzegom pszenica prażona | 1 kg (11.5%) | 70 % | 1000 |
| Grain | Słód karmelowy 600 Strzegom | 1 kg (11.5%) | --- % | --- |
| Grain | Carafa III | 0.4 kg (4.6%) | 70 % | 1034 |
| Grain | Strzegom Czekoladowy ciemny | 0.3 kg (3.4%) | 68 % | 1200 |

Hops

| Use for | Name | Amount | Time | Alpha acid |
|---------|------------|--------|--------|------------|
| Boil | Challenger | 90 g | 60 min | 7 % |

Yeasts

| Name | Type | Form | Amount | Laboratory |
|-------------|------|------|--------|------------|
| Safale S-04 | Ale | Dry | 11.5 g | Safale |