

Staruchy!

- Gravity **12.4 BLG**
- ABV **5 %**
- IBU **47**
- SRM **12.3**
- Style **Düsseldorf Altbier**

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 **15 %/h**
- Boil size **26.4 liter(s)**

Mash information

- Mash efficiency **75 %**
- Liquor-to-grist ratio **4 liter(s) / kg**
- Mash size **20.1 liter(s)**
- Total mash volume **25.1 liter(s)**

Steps

- Temp **52 C**, Time **20 min**
- Temp **63 C**, Time **40 min**
- Temp **72 C**, Time **20 min**

Mash step by step

- Heat up **20.1 liter(s)** of strike water to **56C**
- Add grains
- Keep mash **20 min** at **52C**
- Keep mash **40 min** at **63C**
- Keep mash **20 min** at **72C**
- Sparge using **11.3 liter(s)** of **76C** water or to achieve **26.4 liter(s)** of wort

Fermentables

| Type | Name | Amount | Yield | EBC |
|-------|-----------------------------|----------------|-------|-----|
| Grain | Strzegom Monachijski typ I | 2 kg (39.8%) | 79 % | 16 |
| Grain | Strzegom Pilzneński | 0.9 kg (17.9%) | 80 % | 4 |
| Grain | Strzegom Karmel 600 | 0.12 kg (2.4%) | 68 % | 600 |
| Grain | Strzegom Monachijski typ II | 2 kg (39.8%) | 79 % | 22 |

Hops

| Use for | Name | Amount | Time | Alpha acid |
|---------------------|-----------------------|--------|--------|------------|
| Boil | Magnum | 30 g | 60 min | 12.6 % |
| Aroma (end of boil) | halertauer mittelfruh | 18 g | 10 min | 3.9 % |
| Aroma (end of boil) | tradition | 12 g | 10 min | 6 % |

Yeasts

| Name | Type | Form | Amount | Laboratory |
|-----------------------|------|-------|--------|------------------|
| FM42 Stare Nadreńskie | Ale | Slant | 100 ml | Fermentum Mobile |