

Czeska dupa

- Gravity **10.5 BLG**
- ABV **4.2 %**
- IBU **28**
- SRM **16.6**
- Style **Dark American Lager**

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 **12.5 liter(s)**
- Total mash volume **16.7 liter(s)**

Steps

- Temp **52 C**, Time **10 min**
- Temp **63 C**, Time **20 min**
- Temp **72 C**, Time **40 min**
- Temp **72 C**, Time **15 min**
- Temp **78 C**, Time **5 min**

Mash step by step

- Heat up **12.5 liter(s)** of strike water to **57.4C**
- Add grains
- Keep mash **10 min** at **52C**
- Keep mash **20 min** at **63C**
- Keep mash **15 min** at **72C**
- Keep mash **40 min** at **72C**
- Keep mash **5 min** at **78C**
- Sparge using **17 liter(s)** of **76C** water or to achieve **25.3 liter(s)** of wort

Fermentables

| Type | Name | Amount | Yield | EBC |
|-------|--------------------------|----------------|-------|-----|
| Grain | Pilzneński | 2 kg (47.8%) | 81 % | 4 |
| Grain | Monachijski | 1.6 kg (38.3%) | 80 % | 16 |
| Grain | Karmelowy żytni Strzegom | 0.4 kg (9.6%) | 75 % | 150 |
| Grain | Carafa II | 0.18 kg (4.3%) | 70 % | 812 |

Hops

| Use for | Name | Amount | Time | Alpha acid |
|---------------------|-----------------------|--------|--------|------------|
| Boil | Premiant | 25 g | 60 min | 8 % |
| Aroma (end of boil) | Saaz (Czech Republic) | 15 g | 15 min | 4.5 % |

Yeasts

| Name | Type | Form | Amount | Laboratory |
|---------------------------------------|-------|------|--------|-----------------|
| Mangrove Jack's M54 Californian Lager | Lager | Dry | 10 g | Mangrove Jack's |