

Dunkel

- Gravity **13.1 BLG**
- ABV **5.3 %**
- IBU **13**
- SRM **12.9**
- Style **Dunkelweizen**

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 **70 %**
- Liquor-to-grist ratio **3 liter(s) / kg**
- Mash size **16.5 liter(s)**
- Total mash volume **22 liter(s)**

Steps

- Temp **43 C**, Time **20 min**
- Temp **64 C**, Time **30 min**
- Temp **70 C**, Time **30 min**
- Temp **78 C**, Time **5 min**

Mash step by step

- Heat up **16.5 liter(s)** of strike water to **46.8C**
- Add grains
- Keep mash **20 min** at **43C**
- Keep mash **30 min** at **64C**
- Keep mash **30 min** at **70C**
- Keep mash **5 min** at **78C**
- Sparge using **14.3 liter(s)** of **76C** water or to achieve **25.3 liter(s)** of wort

Fermentables

Type	Name	Amount	Yield	EBC
Grain	Pszeniczny	3 kg (54.5%)	85 %	4
Grain	Strzegom Monachijski typ II	0.8 kg (14.5%)	79 %	22
Grain	Strzegom Wiedeński	0.8 kg (14.5%)	79 %	10
Grain	Strzegom Karmel 30	0.8 kg (14.5%)	75 %	30
Grain	Fawcett - Pszeniczny Czekoladowy	0.1 kg (1.8%)	73 %	1001

Hops

Use for	Name	Amount	Time	Alpha acid
Boil	Tettnang	30 g	60 min	4 %

Yeasts

Name	Type	Form	Amount	Laboratory
FM41 Gwoździe i Banany	Wheat	Liquid	10 ml	Fermentum Mobile