

## #09 Dunkel weizen

- Gravity **12.1 BLG**
- ABV **4.9 %**
- IBU **14**
- SRM **20.7**
- Style **Dunkelweizen**

### Batch size

- Expected quantity of finished beer **13 liter(s)**
- Trub loss **5 %**
- Size with trub loss **13.7 liter(s)**
- Boil time **60 min**
- Evaporation rate **10 %/h**
- Boil size **16.4 liter(s)**

### Mash information

- Mash efficiency **70 %**
- Liquor-to-grist ratio **3.5 liter(s) / kg**
- Mash size **11.6 liter(s)**
- Total mash volume **14.9 liter(s)**

### Steps

- Temp **44 C**, Time **15 min**
- Temp **62 C**, Time **30 min**
- Temp **70 C**, Time **30 min**
- Temp **77 C**, Time **5 min**

### Mash step by step

- Heat up **11.6 liter(s)** of strike water to **47.4C**
- Add grains
- Keep mash **15 min** at **44C**
- Keep mash **30 min** at **62C**
- Keep mash **30 min** at **70C**
- Keep mash **5 min** at **77C**
- Sparge using **8.1 liter(s)** of **76C** water or to achieve **16.4 liter(s)** of wort

### Fermentables

Type	Name	Amount	Yield	EBC
Grain	Pszeniczny	1.7 kg (51.5%)	85 %	4
Grain	Pilzneński	0.5 kg (15.2%)	81 %	4
Grain	Strzegom Monachijski typ II	0.5 kg (15.2%)	79 %	22
Grain	Pszeniczny karmelowy	0.5 kg (15.2%)	77 %	150
Grain	Strzegom Czekoladowy ciemny	0.1 kg (3%)	68 %	1200

### Hops

Use for	Name	Amount	Time	Alpha acid
Boil	Hallertau Mittelfruh	20 g	45 min	4.5 %

### Yeasts

Name	Type	Form	Amount	Laboratory
Mangrove Jack's M20 Bavarian Wheat	Wheat	Slant	150 ml	Mangrove Jack's