

## Dortmunder

- Gravity **13.3 BLG**
- ABV **5.5 %**
- IBU **49**
- SRM **4.6**
- Style **Dortmunder Export**

### Batch size

- Expected quantity of finished beer **22 liter(s)**
- Trub loss **5 %**
- Size with trub loss **23.1 liter(s)**
- Boil time **60 min**
- Evaporation rate **10 %/h**
- Boil size **27.8 liter(s)**

### Mash information

- Mash efficiency **75 %**
- Liquor-to-grist ratio **3.5 liter(s) / kg**
- Mash size **20.6 liter(s)**
- Total mash volume **26.5 liter(s)**

### Steps

- Temp **50 C**, Time **20 min**
- Temp **62 C**, Time **45 min**
- Temp **72 C**, Time **15 min**
- Temp **78 C**, Time **10 min**

### Mash step by step

- Heat up **20.6 liter(s)** of strike water to **54.3C**
- Add grains
- Keep mash **20 min** at **50C**
- Keep mash **45 min** at **62C**
- Keep mash **15 min** at **72C**
- Keep mash **10 min** at **78C**
- Sparge using **13.1 liter(s)** of **76C** water or to achieve **27.8 liter(s)** of wort

### Fermentables

Type	Name	Amount	Yield	EBC
Grain	Słód Pilsner® 2,5-4,5 EBC Weyermann	3.7 kg (62.7%)	80 %	4
Grain	Monachijski typ II 20-25 EBC Weyermann	0.6 kg (10.2%)	80 %	20
Grain	Weyermann - Carapils	0.6 kg (10.2%)	78 %	4
Grain	Pilzneński	1 kg (16.9%)	81 %	4

### Hops

Use for	Name	Amount	Time	Alpha acid
Boil	Magnum	30 g	60 min	15.5 %
Boil	Hallertau Spalt Select	10 g	20 min	3.9 %
Boil	Hallertau Spalt Select	20 g	5 min	3.9 %

### Yeasts

Name	Type	Form	Amount	Laboratory
Saflager S-23	Lager	Dry	11.5 g	Fermentis