

## duseldoorska warka #6

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- Gravity **12.4 BLG**
- ABV **5 %**
- IBU **43**
- SRM **7.8**
- Style **Düsseldorf Altbier**

### Batch size

- Expected quantity of finished beer **20 liter(s)**
- Trub loss **5 %**
- Size with trub loss **22 liter(s)**
- Boil time **70 min**
- Evaporation rate **10 %/h**
- Boil size **26.8 liter(s)**

### Mash information

- Mash efficiency **80 %**
- Liquor-to-grist ratio **3.5 liter(s) / kg**
- Mash size **16.6 liter(s)**
- Total mash volume **21.4 liter(s)**

### Steps

- Temp **65 C**, Time **60 min**
- Temp **76 C**, Time **10 min**

### Mash step by step

- Heat up **16.6 liter(s)** of strike water to **71.4C**
- Add grains
- Keep mash **60 min** at **65C**
- Keep mash **10 min** at **76C**
- Sparge using **15 liter(s)** of **76C** water or to achieve **26.8 liter(s)** of wort

### Fermentables

Type	Name	Amount	Yield	EBC
Grain	Pilzneński Viking	4.6 kg (96.8%)	81 %	4
Grain	Karmelowy żytni Viking malt	0.1 kg (2.1%)	75 %	150
Grain	Czekoladowy ciemny VikingMalt	0.05 kg (1.1%)	60 %	900

### Hops

Use for	Name	Amount	Time	Alpha acid
Boil	Magnum	30 g	60 min	13.5 %

### Yeasts

Name	Type	Form	Amount	Laboratory
Saflager S-23	Ale	Dry	11.5 g	safale