

# Quad

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- Gravity **22.7 BLG**
- ABV **10.3 %**
- IBU **42**
- SRM **28.4**
- Style **Belgian Dark Strong Ale**

## Batch size

- Expected quantity of finished beer **19 liter(s)**
- Trub loss **5 %**
- Size with trub loss **19.9 liter(s)**
- Boil time **70 min**
- Evaporation rate **10 %/h**
- Boil size **24.5 liter(s)**

## Mash information

- Mash efficiency **65 %**
- Liquor-to-grist ratio **3 liter(s) / kg**
- Mash size **21.6 liter(s)**
- Total mash volume **28.8 liter(s)**

## Steps

- Temp **62 C**, Time **50 min**
- Temp **65 C**, Time **40 min**
- Temp **67 C**, Time **15 min**
- Temp **72 C**, Time **15 min**
- Temp **78 C**, Time **5 min**

## Mash step by step

- Heat up **21.6 liter(s)** of strike water to **69C**
- Add grains
- Keep mash **50 min** at **62C**
- Keep mash **40 min** at **65C**
- Keep mash **15 min** at **67C**
- Keep mash **15 min** at **72C**
- Keep mash **5 min** at **78C**
- Sparge using **10.1 liter(s)** of **76C** water or to achieve **24.5 liter(s)** of wort

## Fermentables

Type	Name	Amount	Yield	EBC
Grain	Viking Pilsner malt	4 kg (46%)	80 %	4
Grain	Strzegom Wiedeński	3 kg (34.5%)	79 %	9
Sugar	cukier kandyzowany brązowy	1.5 kg (17.2%)	100 %	145
Grain	Jęczmień palony	0.2 kg (2.3%)	65 %	1200

## Hops

Use for	Name	Amount	Time	Alpha acid
Boil	Perle	25 g	60 min	7.4 %
Boil	Fuggles	25 g	45 min	5 %
Boil	Perle	25 g	30 min	7.4 %
Boil	Fuggles	25 g	30 min	5 %

## Yeasts

Name	Type	Form	Amount	Laboratory
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FM28 Habit opata	Ale	Liquid	30 ml	Fermentum Mobile
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