

# Black Panda

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- Gravity **28.1 BLG**
- ABV **13.6 %**
- IBU **69**
- SRM **45**
- Style **Russian Imperial Stout**

## Batch size

- Expected quantity of finished beer **11 liter(s)**
- Trub loss **5 %**
- Size with trub loss **11.6 liter(s)**
- Boil time **60 min**
- Evaporation rate **10 %/h**
- Boil size **14 liter(s)**

## Mash information

- Mash efficiency **85 %**
- Liquor-to-grist ratio **3 liter(s) / kg**
- Mash size **16.8 liter(s)**
- Total mash volume **22.4 liter(s)**

## Steps

- Temp **68 C**, Time **90 min**
- Temp **78 C**, Time **10 min**

## Mash step by step

- Heat up **16.8 liter(s)** of strike water to **76C**
- Add grains
- Keep mash **90 min** at **68C**
- Keep mash **10 min** at **78C**
- Sparge using **2.8 liter(s)** of **76C** water or to achieve **14 liter(s)** of wort

## Fermentables

Type	Name	Amount	Yield	EBC
Grain	Weyermann - Pale Ale Malt	3 kg (53.6%)	85 %	7
Grain	Weyermann - Munich Type 2	1.5 kg (26.8%)	80 %	22
Grain	Weyermann - Oak Smoked Malt	0.5 kg (8.9%)	81 %	6
Grain	Weyermann - Chocolate Wheat	0.35 kg (6.3%)	74 %	817.5
Grain	Weyermann - Carafa III	0.25 kg (4.5%)	70 %	925.7

## Hops

Use for	Name	Amount	Time	Alpha acid
Boil	Northern Brewer	50 g	60 min	8.8 %
Boil	Northern Brewer	20 g	40 min	8.8 %
Boil	Northern Brewer	10 g	20 min	8.8 %

## Yeasts

Name	Type	Form	Amount	Laboratory
Danstar - Nottingham	Ale	Dry	11 g	Danstar