

## Ace of spades

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- Gravity **16.1 BLG**
- ABV **6.8 %**
- IBU **70**
- SRM **28.2**
- Style **Black IPA**

### Batch size

- Expected quantity of finished beer **10 liter(s)**
- Trub loss **5 %**
- Size with trub loss **11 liter(s)**
- Boil time **60 min**
- Evaporation rate **20 %/h**
- Boil size **13.8 liter(s)**

### Mash information

- Mash efficiency **75 %**
- Liquor-to-grist ratio **3 liter(s) / kg**
- Mash size **9.8 liter(s)**
- Total mash volume **13 liter(s)**

### Fermentables

Type	Name	Amount	Yield	EBC
Grain	Pilzneński	2.5 kg (76.9%)	81 %	4
Grain	Strzegom Karmel 150	0.25 kg (7.7%)	75 %	150
Grain	Carafa II	0.25 kg (7.7%)	70 %	812
Grain	Biscuit Malt	0.25 kg (7.7%)	79 %	45

### Hops

Use for	Name	Amount	Time	Alpha acid
Boil	Cascade	35 g	60 min	6 %
Boil	Cascade	20 g	45 min	6 %
Boil	Cascade	15 g	15 min	6 %
Aroma (end of boil)	Cascade	5 g	0 min	6 %
Dry Hop	Cascade	25 g	3 day(s)	6 %

### Yeasts

Name	Type	Form	Amount	Laboratory
Safale S-04	Ale	Dry	11.5 g	Safale