

# Ace of Spades

- Gravity **14.3 BLG**
- ABV **5.9 %**
- IBU **27**
- SRM **9.4**
- Style **American Pale Ale**

## Batch size

- Expected quantity of finished beer **20 liter(s)**
- Trub loss **5 %**
- Size with trub loss **21 liter(s)**
- Boil time **60 min**
- Evaporation rate **10 %/h**
- Boil size **25.3 liter(s)**

## Mash information

- Mash efficiency **75 %**
- Liquor-to-grist ratio **3 liter(s) / kg**
- Mash size **16.5 liter(s)**
- Total mash volume **22 liter(s)**

## Steps

- Temp **68 C**, Time **90 min**
- Temp **78 C**, Time **5 min**

## Mash step by step

- Heat up **16.5 liter(s)** of strike water to **76C**
- Add grains
- Keep mash **90 min** at **68C**
- Keep mash **5 min** at **78C**
- Sparge using **14.3 liter(s)** of **76C** water or to achieve **25.3 liter(s)** of wort

## Fermentables

Type	Name	Amount	Yield	EBC
Grain	Viking Pale Ale malt	5 kg (87.7%)	80 %	5
Grain	Strzegom Karmel 150	0.5 kg (8.8%)	75 %	150
Sugar	Muscovado	0.2 kg (3.5%)	--- %	---

## Hops

Use for	Name	Amount	Time	Alpha acid
Boil	Sorachi Ace	20 g	60 min	10 %
Boil	Sorachi Ace	30 g	5 min	10 %
Dry Hop	Sorachi Ace	50 g	4 day(s)	10 %

## Yeasts

Name	Type	Form	Amount	Laboratory
Safale US-05	Ale	Dry	11 g	Fermentis

## Extras

Type	Name	Amount	Use for	Time
Flavor	Płatki dębowe macerowane w rumie	50 g	Secondary	14 day(s)

Other	Muscovado	60 g	Bottling	---
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