

# 001\_Ace of Hearts

- Gravity **15.9 BLG**
- ABV ---
- IBU **78**
- SRM **9**
- Style **Belgian IPA**

## Batch size

- Expected quantity of finished beer **20 liter(s)**
- Trub loss **15 %**
- Size with trub loss **23 liter(s)**
- Boil time **60 min**
- Evaporation rate **20 %/h**
- Boil size **27.6 liter(s)**

## Mash information

- Mash efficiency **80 %**
- Liquor-to-grist ratio **3 liter(s) / kg**
- Mash size **18 liter(s)**
- Total mash volume **24 liter(s)**

## Steps

- Temp **64 C**, Time **30 min**
- Temp **72 C**, Time **45 min**
- Temp **78 C**, Time **5 min**

## Mash step by step

- Heat up **18 liter(s)** of strike water to **71.3C**
- Add grains
- Keep mash **30 min** at **64C**
- Keep mash **45 min** at **72C**
- Keep mash **5 min** at **78C**
- Sparge using **15.6 liter(s)** of **76C** water or to achieve **27.6 liter(s)** of wort

## Fermentables

Type	Name	Amount	Yield	EBC
Grain	Weyermann - Pale Ale Malt	4 kg (66.7%)	85 %	7
Grain	Rye Malt	1 kg (16.7%)	63 %	10
Grain	Weyermann - Grodziski	0.5 kg (8.3%)	80 %	4
Grain	Biscuit Malt	0.5 kg (8.3%)	79 %	45

## Hops

Use for	Name	Amount	Time	Alpha acid
Boil	Green Bullet	30 g	45 min	11 %
Boil	Nelson Sauvín	10 g	45 min	10 %
Boil	Sorachi Ace	10 g	45 min	10 %
Boil	Green Bullet	20 g	30 min	11 %
Aroma (end of boil)	Nelson Sauvín	10 g	15 min	10 %
Aroma (end of boil)	Sorachi Ace	10 g	15 min	10 %
Aroma (end of boil)	Nelson Sauvín	15 g	5 min	10 %
Aroma (end of boil)	Sorachi Ace	15 g	5 min	10 %
Dry Hop	Sorachi Ace	30 g	10 day(s)	10 %

Dry Hop	Nelson Sauvignon	30 g	10 day(s)	10 %
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## Yeasts

Name	Type	Form	Amount	Laboratory
Mangrove Jack's M27 Belgian Ale	Ale	Dry	10 g	Mangrove Jack's

## Notes

- Fermentacja burzliwa - 7 dni, Fermentacja cicha - 10 dni. Na 20 litrów piwa, do refermentacji trzeba ~100 gram cukru Dark Muscovado.  
*Nov 19, 2015, 9:03 PM*