

## 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     |