

# BLACK IPA/CDA v5 #80

- Gravity **16.6 BLG**
- ABV **7 %**
- IBU **68**
- SRM **30.7**
- Style **Black IPA**

## Batch size

- Expected quantity of finished beer **20.5 liter(s)**
- Trub loss **5 %**
- Size with trub loss **21.9 liter(s)**
- Boil time **90 min**
- Evaporation rate **12 %/h**
- Boil size **26.3 liter(s)**

## Mash information

- Mash efficiency **77.3 %**
- Liquor-to-grist ratio **3.16 liter(s) / kg**
- Mash size **20 liter(s)**
- Total mash volume **26.3 liter(s)**

## Steps

- Temp **66 C**, Time **60 min**
- Temp **72 C**, Time **10 min**
- Temp **75 C**, Time **7 min**

## Mash step by step

- Heat up **20 liter(s)** of strike water to **73.3C**
- Add grains
- Keep mash **60 min** at **66C**
- Keep mash **10 min** at **72C**
- Keep mash **7 min** at **75C**
- Sparge using **12.6 liter(s)** of **76C** water or to achieve **26.3 liter(s)** of wort

## Fermentables

Type	Name	Amount	Yield	EBC
Grain	Viking - pilzneński	1.033 kg (16.3%)	80 %	4
Grain	Mep©Ale	4.5 kg (71.1%)	82.1 %	5.5
Grain	Viking - monachijski 2	0.114 kg (1.8%)	78 %	22
Grain	Viking - karmelowy czerwony	0.1 kg (1.6%)	75 %	50
Grain	Chateau - Crystal	0.13 kg (2.1%)	78 %	150
Grain	Weyermann - Carafa II Special	0.44 kg (7%)	65 %	1150
Grain	Weyermann - Carafa III Special	0.01 kg (0.2%)	65 %	1400

## Hops

Use for	Name	Amount	Time	Alpha acid
Boil	Warrior	20 g	60 min	14.7 %
Aroma (end of boil)	Columbus	25 g	20 min	12.4 %
Aroma (end of boil)	Simcoe	25 g	10 min	13.2 %
Aroma (end of boil)	Cascade US	25 g	5 min	6.9 %
Aroma (end of boil)	Perle (szyszka)	25 g	5 min	7 %

100 gr mokrej szyszki mrożonej, ekwiwalent 25 gr suchej				
Aroma (end of boil)	Sybilla (szyszka)	25 g	5 min	6.5 %
100 gr mokrej szyszki mrożonej, ekwiwalent 25 gr suchej				
Dry Hop	Cascade PL	25 g	3 day(s)	5.5 %
Dry Hop	Cascade US	30 g	3 day(s)	6.9 %
Dry Hop	Mosaic	20 g	3 day(s)	12.1 %
Dry Hop	Columbus	20 g	3 day(s)	12.4 %

## Yeasts

Name	Type	Form	Amount	Laboratory
FM54 Gorączka kalifornijska	Ale	Slant	140 ml	Fermentum Mobile

## Extras

Type	Name	Amount	Use for	Time
Water Agent	Gips	4 g	Mash	---
Water Agent	kwas mlekowy 80% [ml]	3.03 g	Mash	---
Water Agent	chlerek wapnia [ml]	0 g	Mash	---
Water Agent	węglan wapnia/kreda	7 g	Mash	---
Water Agent	sól epsom	1.5 g	Mash	---
Fining	irish moss	3 g	Boil	5 min