

Brut'al

- Gravity **12.6 BLG**
- ABV **5.1 %**
- IBU **6**
- SRM **3.3**
- Style **American Pale Ale**

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 **10 %/h**
- Boil size **13.2 liter(s)**

Mash information

- Mash efficiency **80 %**
- Liquor-to-grist ratio **3.5 liter(s) / kg**
- Mash size **7.9 liter(s)**
- Total mash volume **10.1 liter(s)**

Steps

- Temp **62 C**, Time **60 min**
- Temp **72 C**, Time **10 min**
- Temp **78 C**, Time **5 min**

Mash step by step

- Heat up **7.9 liter(s)** of strike water to **68C**
- Add grains
- Keep mash **60 min** at **62C**
- Keep mash **10 min** at **72C**
- Keep mash **5 min** at **78C**
- Sparge using **7.6 liter(s)** of **76C** water or to achieve **13.2 liter(s)** of wort

Fermentables

Type	Name	Amount	Yield	EBC
Grain	Pilzneński IREKS	1.75 kg (72.9%)	81 %	4
Grain	Płatki ryżowe	0.25 kg (10.4%)	78.3 %	2
Grain	Płatki owsiane	0.25 kg (10.4%)	85 %	3
Sugar	Cukier biały	0.15 kg (6.3%)	80 %	2

Hops

Use for	Name	Amount	Time	Alpha acid
Aroma (end of boil)	Mosaic	15 g	5 min	10 %
Aroma (end of boil)	Citra	15 g	0 min	10 %
Dry Hop	Citra	35 g	3 day(s)	13 %
Dry Hop	Galaxy	45 g	3 day(s)	15 %

Yeasts

Name	Type	Form	Amount	Laboratory
Us-05	Ale	Dry	5.75 g	Fermentis

Extras

Type	Name	Amount	Use for	Time
Other	Glukoamylaza	2.5 g	Primary	20 day(s)