

# Karmel z pszenicy

- Gravity **11.2 BLG**
- ABV **4.5 %**
- IBU **20**
- SRM **17.3**
- Style **Dunkelweizen**

## Batch size

- Expected quantity of finished beer **52 liter(s)**
- Trub loss **5 %**
- Size with trub loss **54.6 liter(s)**
- Boil time **60 min**
- Evaporation rate **10 %/h**
- Boil size **65.8 liter(s)**

## Mash information

- Mash efficiency **75 %**
- Liquor-to-grist ratio **3 liter(s) / kg**
- Mash size **34 liter(s)**
- Total mash volume **45.4 liter(s)**

## Steps

- Temp **44 C**, Time **15 min**
- Temp **65 C**, Time **40 min**
- Temp **72 C**, Time **20 min**
- Temp **78 C**, Time **5 min**

## Mash step by step

- Heat up **34 liter(s)** of strike water to **48C**
- Add grains
- Keep mash **15 min** at **44C**
- Keep mash **40 min** at **65C**
- Keep mash **20 min** at **72C**
- Keep mash **5 min** at **78C**
- Sparge using **43.2 liter(s)** of **76C** water or to achieve **65.8 liter(s)** of wort

## Fermentables

Type	Name	Amount	Yield	EBC
Grain	Pszeniczny	5 kg (44.1%)	85 %	4
Grain	Strzegom Monachijski typ I	5 kg (44.1%)	80 %	16
Grain	Briess - Caracrysal Wheat Malt	0.6 kg (5.3%)	78 %	108
Grain	Caraaroma	0.5 kg (4.4%)	78 %	400
Grain	Strzegom Czekoladowy 1200	0.25 kg (2.2%)	68 %	1200

## Hops

Use for	Name	Amount	Time	Alpha acid
Boil	lunga	33 g	50 min	11 %
Boil	Marynka	15 g	30 min	8 %
Boil	Saaz (Czech Republic)	25 g	5 min	4 %

## Yeasts

Name	Type	Form	Amount	Laboratory
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Lallemand german wheat gestwa	Wheat	Slant	400 ml	Lalleland
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### Extras

Type	Name	Amount	Use for	Time
Water Agent	Kwas mlekowy	4 g	Mash	2 min