

Characteristics of DistilaMax®

LALLEMAND CRAFT DISTILLING

Temperature	Raw Material	DistilaMax®	pH range	Ethanol Content	Higher Alcohols	Esters	Additional Information
20 °C - 28 °C	Malted	MW	3.8 – 5.3				
		NT	3.8 – 5.3				
		XP	3.8 – 5.3				
28 °C - 34 °C	Barley	MW	3.8 – 5.3				
		NT	3.8 – 5.3				
		XP	3.8 – 5.3				
34 °C - 36 °C	Barley	MW	3.8 – 5.3				
		NT	3.8 – 5.3				
		XP	3.8 – 5.3				
20°C - 34°C	Grain	GW	3.8 – 5.3				Used for Whiskey
20°C – 36°C		NT	3.8 – 5.3				
25°C - 33°C		MW	3.8 – 5.3				Recommended with rye due to foam
31°C - 35°C		HT	3.8 – 5.2				Used for neutral spirit production
<28°C – 31°C		DS	3.8 – 5.2				
25°C – 38°C	CANE Molasses	CN	3.4 – 5.3				Selected on cane juice, works well at high T°
25°C – 36°C		SR	3.6 – 5.3				Selected on molasses
25°C – 34°C	BEET Molasses	SR	3.6 – 5.3				Selected on molasses
27 °C - 33 °C	SUGAR CANE Juice	RM	3.3 – 5.3				Selected on cane juice, works well at high T°C
33 °C - 36 °C		RM	3.3 – 5.3				
27°C – 33°C		CN	3.4 – 5.3				Selected on cane juice, works well at high T°
33°C – 38°C		CN	3.4 – 5.3				
27 °C - 33 °C		SR	3.6 – 5.3				Good results on ethanol content
20°C - 33°C	Agave	TQ	3.2 – 5.2				
20°C - 33°C		LS	3.2 – 5.2				
20°C – 33°C	Fruit	LS	3.2 – 5.2				Works well at low pH
20°C - 33°C		TQ	3.2 – 5.2				

= Highest = Lowest



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Higher Alcohols

Higher alcohols, also known as Fusel oils, are alcohols with more than 2 carbon atoms; Ethanol contains two carbons.

They are formed in small amounts by the yeast metabolism during the alcoholic fermentation process.

Higher alcohols are produced through a sequence of reactions from sugars and amino acids.

The amount produced is dependent on the genus, species and strain of yeast, the specific nutrient makeup (nitrogen and amino acids) and sugar composition of the must or wort and the temperature, aeration and pH profiles during fermentation.

Higher alcohols can have an aromatic effect. Some can be considered positive whilst others can be considered negative to the spirits aromatic profile.

Esters

Esters are key components of aromas.

They are usually formed by the reaction between an acid and an alcohol with the elimination of water.

This is why it's important to develop some higher alcohols during the fermentation process. As with higher alcohols, the production of esters is dependent on the yeast strain and fermentation conditions.

The production of esters then continues during maturation in wooden barrels.

Esters make an important contribution to the aromatic profile of a spirit, even at very low concentrations. Unlike higher alcohols, the aromatic threshold of esters is very low meaning concentrations of ppb are enough to impart spicy, fruity, flowery and others aromas to the distillate.