

## FREQUENTLY ASKED QUESTIONS RELATING TO AUSTANE® / POLYURETHANE®

[Austane®](#) is the brand name for McNeill Plastics premium grade polyurethane. Polyurethane is an elastomer or, in other words an elastic plastic. McNeill Plastics provide two types of polyurethane product materials:

1. [Austane®](#) - for extreme dynamic applications where other polyurethanes have failed.
2. Standard grade polyurethane - this is a product that offers superior properties to rubber, available in several hardness grades. It has lower processing costs making it a very cost effective solution.

### Is Austane® the same as other polyurethanes?

Austane® is a PPDI polyurethane. It is difficult to process and its raw materials are expensive. Austane® is a very high grade and high quality polyurethane requiring strict process temperature control and post curing after casting. These properties give it the ability to be used in many engineering applications requiring extreme properties from polyurethane. Properties such as [higher continuous operating temperatures](#), [greater tear and abrasion](#) that is important for wheels that steer and a [larger percentage elongation to break](#) – stretches further without failure.

### Are there different grades of Austane® and Standard Polyurethane?

Yes, there are. Austane® premium grade has no colour additives so that optimal performance properties are obtained from this polyurethane. [Standard grades are colour coded](#) so that they can be easily identified without the need of a hardness test. The grades are listed as follows:

	Hardness (Durometer 'A' / 'D' Scale)	Industry Standard Colour Code
<b>Austane® Premium Grade</b>	95 A	Cream in colour
	80 A	Honey in Colour
<b>Polyurethane Standard Grade</b>	75 D	Black
	95 A	Black
	90 A	Red
	80 A	Green
	70 A	Yellow
	60 A	Blue
	50 A	Orange
	40 A	Dark Green

## What can I use Austane® for?

Austane® Premium Grade Polyurethane typical applications are: Amusement park ride wheels, process rollers in textile manufacture, grinding pressure wheels, trunnion rollers and potential applications where others have failed. Situations where high loads, which in turn generate high internal temperatures in a part, or cut and tear applications tending to tear pieces from a part. We offer a free design service and also encourage field service tests.

Polyurethane Standard Grade typical applications are: Lift rollers, process rollers, form rollers, ‘V’ rollers for marine applications, grippers for packaging equipment, automotive suspension bushes, vibration isolation bushes, power transmission coupling inserts, conveyor rollers, pipe cleaning pigs, bumper and buffer pads, protective skirts and almost any component made from rubber.

## Do I need to pay for an expensive mould?

No, in most cases components made from all grades of polyurethane do not require expensive moulds. Typically a sample of the component to be cast is enough to create a mould from, or simple rings are used to cast wheels on to hubs.

## Can I store my Polyurethane Parts?

In general polyurethane parts do not store well for periods longer than 12 to 18 months. Typically polyurethane suffers from a mechanical property degradation known as hydrolysis. This causes the polyurethane to crumble like a mature cheese. However, polyurethanes in constant use, do not suffer from the same effect. This means that your spare parts may not perform as expected if they are stored for some time.

Therefore, the key to minimising your spares use and maximising your purchasing dollar is to buy no more than a 12-month supply.

***For additional product information and or design assistance contact your  
McNeill Plastics representative.***

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