ESSIL 291 CATALYST
ESSIL 292 OIL CATALYST
ESSIL 90 RETARDANT
POLYADDITION SILICONE ELASTOMER
Translucent – Hardness 38 Shore A

APPLICATIONS

Soft negatives, flexible moulds for shapes having complex contours and undercuts in the prototype industry.
ESSIL 291 silicone is particularly suitable for casting resins (PX range) in a vacuum casting machine.

There are 2 catalysts available to match final application : ESSIL 291, ESSIL 292 for a 38 Shore A.
It is advised to use the catalyst 292 to increase the number of parts in a same mould.

PROPERTIES

- *High transparency*
- *Good chemical resistance towards polyurethanes*
- *Vulcanized by polyaddition*
- *Very easy to mix and to cast*
- *Very low shrinkage when hardening at room temperature*

PHYSICAL PROPERTIES				
		RESIN ESSIL 291	**CATALYST ESSIL 291**	**CATALYST OIL ESSIL 292**
Mixing ratio by weight		100	10	10
Aspect		thick liquid	liquid	Liquid
Colour		translucent	transparent	transparent
Viscosity at 25°C (mPa.s)	BROOKFIELD LVT	43,000	10,000	4,000

			ESSIL 291	**ESSIL 292**
Viscosity at 25°C	BROOKFIELD LVT	MPa.s	40,000	38,000
Pot life at 23°C on 150 g[(1)]		min	60	60
Demoulding time at 23°C		hour	16	16
Demoulding time at 40°C Curing after gel		hour	10	10

(1) It is possible to get 3 hours pot life by adding 0.15% ESSIL 90 RET of catalyst by weight in the mix resin+catalyst (see graph hereafter).

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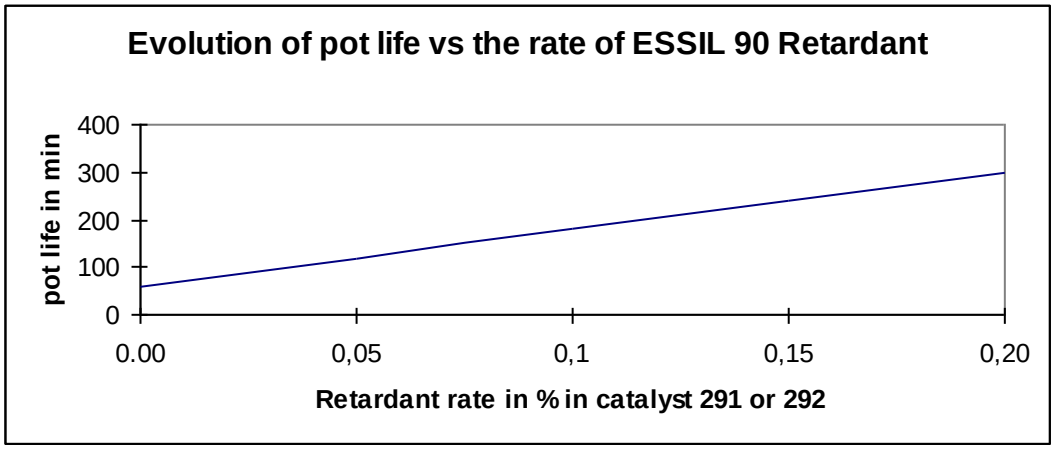
MECHANICAL PROPERTIES AT 23°C			
			Essil291/Essil291 Essil 292
Hardness	ISO 868 : 2003	Shore A1	38
Tensile strength	ASTM D412C : 1997	MPa	5
Elongation at break	ASTM D412 : 1997	%	350
Tear strength *Notched specimen*	ASTM D624B : 1992	KN/m	24
Coefficient of linear expansion	-	$10^{-4}.K^{-1}$	3
Linear shrinkage	-	%	< 0.1
Linear shrinkage after curing at 70°C (curing after gel)	-	%	< 0.7

NOTA : Average values obtained on standard specimens after hardening 7 days at room temperature.



NOTA : *ESSIL 90 retardant is added to existing resin and catalyst mix.*

GUARANTEE

The information of our technical data sheet are based on our present knowledge and the result of tests conducted under precise conditions. It is the responsibility of the user to determine the suitability of AXSON products, under their own conditions before commencing with the proposed application. AXSON refuse any guarantee about the compatibility of a product with any particular application. AXSON disclaim all esponsibility for damage from any incident which results from the use of these products. The guarantee conditions are regulated by our general sale conditions.

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PROCESSING

- *Weigh the resin.*
- *Weigh the catalyst.*
- *Mix the whole for 2 minutes.*

Caution : *Do not forget to scrape brims and bottom of the container. Always use a flat spatula and a smooth brimmed container.*

- *Pour the whole in a container 5 times bigger than the volume of mixing.*
- *Mix again the whole for 30 seconds.*
- *Degas for 15 minutes maximum.*
- *Cast in the frame for 10 to 15 minutes.*
- *Degas the mixture.*
- *Leave it cure at room temperature or 40° (max temperature advised).*

Caution : *Always allow enough time to be able to degas the mixture once cast on the pattern.*

REMARKS

It is possible to heat ESSIL 291 to accelerate its hardening but this may induce a higher shrinkage than the one obtained at 23°C as well as a higher hardness.
We advise to heat up the cast silicone after gel to 40°C overnight before demoulding and cutting.

Inhibition: *Polyaddition silicone elastomers show a quite high sensitivity towards some substances like amines, sulphides or catalysts of other types of silicones (eg: polyester mastics, modelling pastes). The effect of this irreversible inhibition is a sticky surface aspect in contact with the polluted surfaces.*
Do not use CP colours to pigment ESSIL 291.

PRECAUTIONS

Normal health and safety precautions should be observed when handling these products :

- *ensure good ventilation*
- *wear gloves and safety glasses*

For further information, please consult the product safety data sheet.

STORAGE

Shelf life is 12 months in a dry place and in original unopened containers at a temperature between 15 and 25°C.

PACKAGING

ESSIL 291 RESIN	***ESSIL 291 CATALYST***	***ESSIL 292 CATALYST OIL***	***ESSIL 90 RETARDANT***
1 x 10 kg	*1 x 1 kg*	*1 x 1 kg*	*1 x 0.950 kg*
1 x 20 kg	*1 x 2 kg*	*1 x 2 kg*	
1 x 200 kg	*1 x 20 kg*	*1 x 20 kg*	

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