

RAPID PROTOTYPING RESINS

SYNTHENE PR7 SERIES ^{NEW}

INNOVATION AND QUALITY IN VACUUM CASTING



PR700, PR777, PR740 & PR752

A NEW LINE OF PRODUCTS GATHERING PERFORMANCE & SIMPLICITY

- » Based on the technological assets of PR700
- » Declined in versatile rigidities & colourabilities
- » More and more ease for the user

SYNTHENE IS A
COMPANY CERTIFIED BY

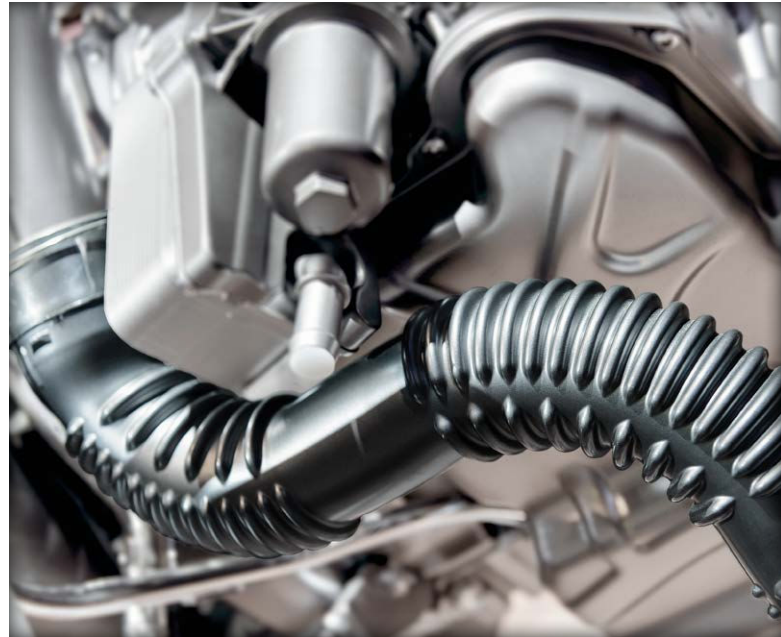


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INNOVATION AND QUALITY IN VACUUM CASTING



THE BEST-SELLER PR700

- » This resin is SYNTHENE's classic and worldwide best-seller
- » This naturally black **counter type of ABS** is ideal for many automotive jobs
- » Silicone's best friend : its exceptional non-aggressiveness enables a great number of castings in the same mould

THE HEAT-RESISTANT PR752

- » The best of the range regarding thermal resistance with a 150 °C HDT
- » This property, associated with a good colourability makes it a unique material
- » Caring about the user's comfort, the PR752 has been developed with an odour-masking agent
- » It is a good **counter type of ABS-HT & PEEK**

THE SEMI-FLEXIBLE PR777

- » This material completes the range with an intermediary rigidity (modulus: 1000 MPa), making it a nice **counter type of HDPE and PP**
- » Strong material suitable for mechanically stressed parts like clips
- » Its 1:1 mixing ratio, long pot-life, and short demoulding time establish a winning combination

THE FLEXIBLE PR740

- » In accordance with REACH 2017, the PR740 offers a mercury-free alternative to PR891
- » Important improvements have also been done for more and more simplicity : better colourability, better homogeneity, better mixing ratio
- » Can be used as a **simulation of HDPE and PP** (car bumpers, living hinges etc.)

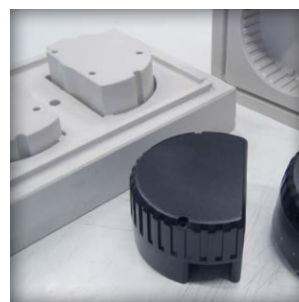
A SINGLE ISO COMPONENT FOR FOUR RESINS

- » The common technology of the PR7 SERIES is based on the PR700 isocyanate that is also used for PR752, PR777 and PR740
- » For that reason, all those resins share PR700's low-aggressiveness to silicone moulds
- » They also offer an easier storage as they benefit from a long shelf-life of 18 months and a common single component

1 The exact data are available in our TDS. The thermal and mechanical properties have been tested under specific conditions of curing and post-curing.

2 Silicone mould life : according to our experience, depending on the mould geometry, surface, demoulding time, kind of silicone, etc.

3 Under UV action, the colour tends to darken.



TECHNICAL INFORMATION ¹

MATERIAL PROPERTIES

			PR 740	PR 777	PR 700	PR 752
			  	  	  	  
Hardness	(Shore D)	ISO 868-2003	70	75	87	87
Counter type of			HDPE/ PP	rigid HDPE/ PP	ABS	ABS/ PEEK
Mix viscosity	(mPa·s)		1000	715	600	1000
Glass transition Temperature (Tg)	(°C)	ASTM D 4065: 2001		> 130	137	
Heat Deflection Temperature (HDT)	(°C)	ISO 75 Ae: 2001	96	110	130	150
Flexural modulus	(MPa)	ISO 178: 2001	590	930	2300	2200
Maximal flexural strength	(MPa)	ISO 178: 2001	25	36	80	96
Tensile modulus	(MPa)	ISO 527: 1993	650	1000	1800	2000
Maximal tensile strength	(MPa)	ISO 527: 1993	> 20	32		75
Elongation at break	(%)	ISO 527: 1993	> 50	35	13	5
Tensile strength at break	(MPa)	ISO 527: 1993		32	60	75

APPLICATION DATA

Mixing ratio	(poly/ iso)	120:100	100:100	80:100	60:100
Pot-Life	(25 °C/ min)	7 – 8	10	6 – 7	6 – 8
Demoulding time	(70 °C/ min)	40	45 – 60	45	50
Mold life approx. ²	(silicone/ unit)	30 – 50	30 – 50	30 – 60	30 – 50

MISCELLANEOUS

Colourability ³					
Material's natural colour		transp. amber	white-beige	black	transp. amber
Shelf-life	(months)	18	18	18	18
Remarks		replacement for PR891	new intermediary rigidity	general automotive use	improved PR751, now colourable



IN ACCORDANCE WITH

REACH (SVHC list in force)

RoHS

2011/ 65/ UE

End-of-life vehicle directive

2000/ 53/ EC

Waste Electrical and Electronic
Equipment Directive

2002/ 96/ EC

2000/11/EC Directive

2000/ 11/ EC

Recycling compliance

IMDS (International
Material Data System)

RAPID PROTOTYPING RANGE

The PR7 Series is SYNTHENE's best technology for Vacuum Casting most demanding jobs. SYNTHENE also offers you a complete range of rapid prototyping resins. This goes from classic **'all-round use' ABS-like materials**, **UV-stable water-clear resins** to any hardness of **elastomers**.

ABOUT SYNTHENE

The innovative chemical company, located in France, was founded in 1958. SYNTHENE provides specific formulation and high quality industrial solutions. SYNTHENE places a particular emphasis on offering high-performance products, with cautiously selected raw materials from trustworthy manufacturers.

All SYNTHENE Prototyping resins meet the current requirements of REACH and SVHC.

SYNTHENE HEADQUARTERS

Ferme de l'Evêché
CS 20308
60723 Pont Sainte Maxence
France

T +33 3 44 31 72 00

F +33 1 57 67 44 58

comm@synthene.com

www.synthene.com