

RAPID PROTOTYPING RESINS

# SYNTHENE PR7 SERIES <sup>NEW</sup>

INNOVATION AND QUALITY IN VACUUM CASTING



**MERCURY  
FREE**



**REDUCED  
SMELL**



**ONE ISO  
FOR ALL**

## 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

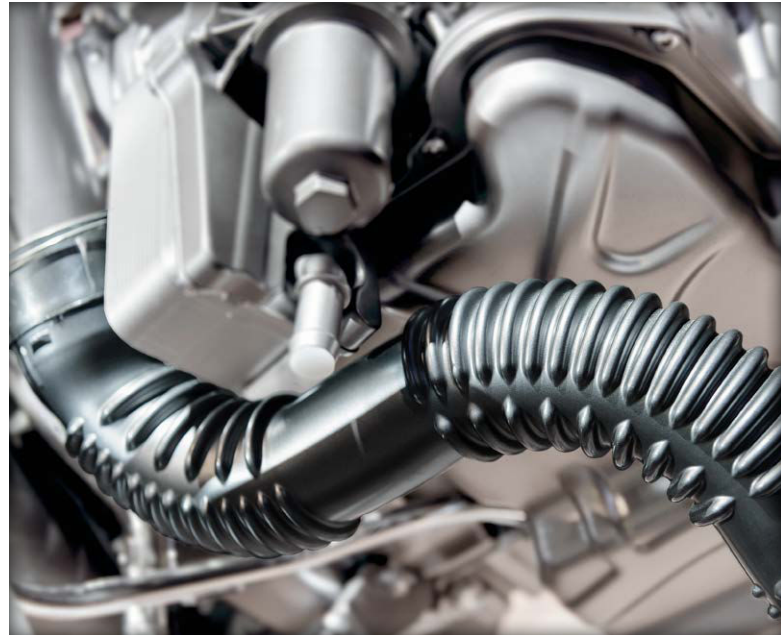
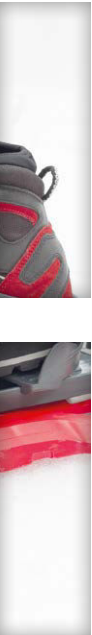


SYNTHENE 2017-09-14 001 EN

RAPID PROTOTYPING RESINS

## SYNTHENE PR7 SERIES **NEW**

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.)

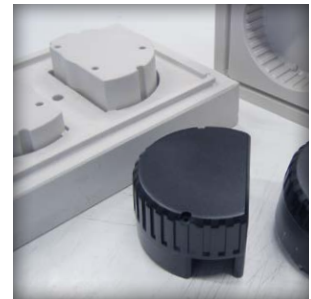
### A SINGLE ISO COMPONENT FOR FOUR RESINS

- » 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 <sup>1</sup>





### MATERIAL PROPERTIES

			PR 740	PR 777	PR 700	PR 752
Hardness	(Shore D) ISO 868-2003					
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. <sup>2</sup>	(silicone/ unit)	30 – 50	30 – 50	30 – 60	30 – 50

### MISCELLANEOUS

Colourability <sup>3</sup>					
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.

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