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

ISO 9001 BUREAU VERITAS Certification

SYNTHENE 2017-09-14 001 EN

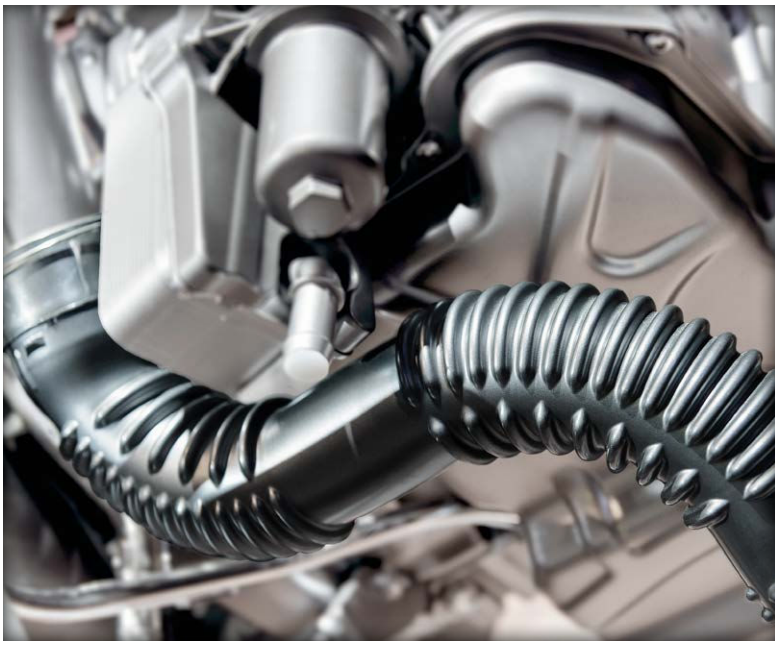
RAPID PROTOTYPING RESINS

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.

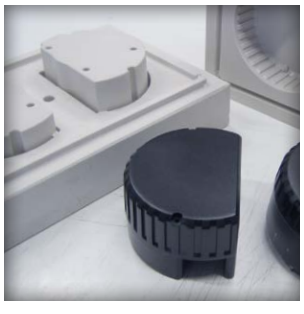
2 Silicone mould life : according to our experience, depending on the mould geometry, surface, demoulding time, kind of silicone, etc.

3 Under UV action, the colour tends to darken.













TECHNICAL INFORMATION [1]

			PR 740	PR 777	PR 700	PR 752
MATERIAL PROPERTIES						
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 interme-diary 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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