

RAPID PROTOTYPING RESINS

SYNTHENE CRISTAL HRI ^{NEW}

INNOVATION AND QUALITY IN VACUUM CASTING



CRISTAL HRI 25 & CRISTAL HRI 120 NEW GENERATION OF UV STABLE TRANSPARENT RESINS

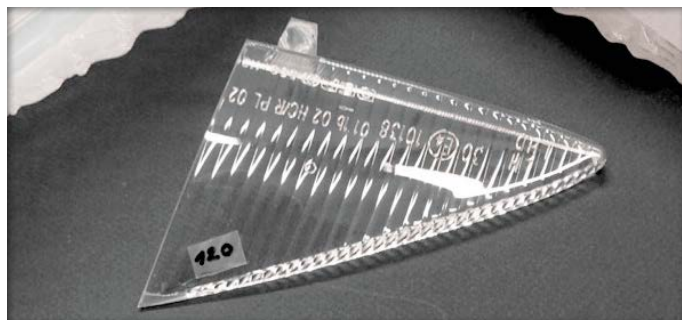
- » State-of-the-art optical properties
- » For automotive, electrical industry and industrial design
- » Countertype of PC & PMMA series materials
- » In full accordance with REACH 2017



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INNOVATION AND QUALITY IN VACUUM CASTING



BEST OPTICAL PROPERTIES

- » Synthene's old tradition of UV Stable water clear resins continues with a new generation, the CRISTAL HRI resins.
- » HRI stands for High Refractive Index (up to 1.549). This property and a top light transmittance (even from infrared wavelengths) are what make CRISTAL HRI resins so unique.

NEWER & SAFER

- » The progress in optical properties goes with improvements regarding the compliance with the new REACH regulation for 2017.
- » Both CRISTAL HRI resins are totally mercury-free and the CRISTAL HRI 25 even has a limited toxicity.

USER FRIENDLY

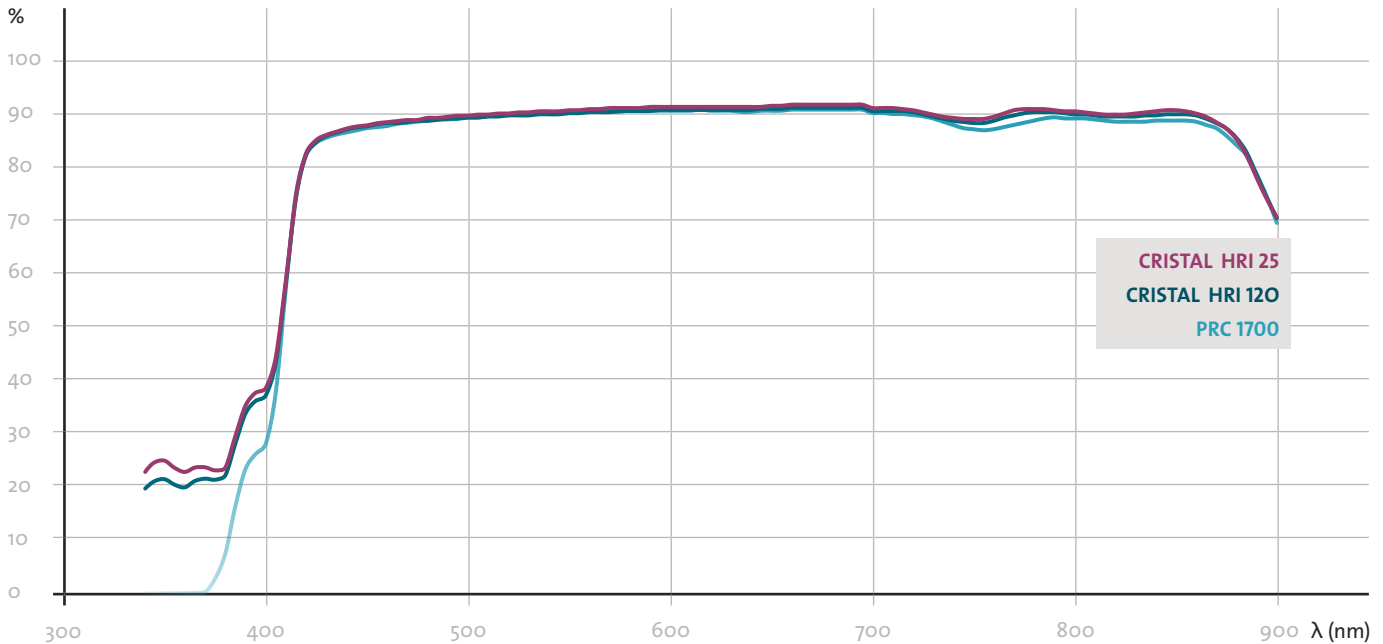
- » The CRISTAL HRI resins are easy to process thanks to a good flowability and they are easy to degas. Once they are cured, they are also easy to demould as they don't adhere to silicone moulds. Eventually, polishing gives the nicest surface to the casted part, with very sharp and precise details.
- » With a 12-month shelf life, the CRISTAL HRI resins can always be at your disposal for any job when it comes to optical properties.

TYPICAL APPLICATIONS

- » Automotive : especially suitable for the prototyping of light guides and car light glasses
- » LED applications
- » Any requirement of high quality optical parts



TRANSMITTANCE = F(λ)¹



TECHNICAL DATA²

CRISTAL HRI 25



CRISTAL HRI 120



Property	Standard	CRISTAL HRI 25	CRISTAL HRI 120
Hardness (Shore D)	ISO 868-2003	84	87
Mix viscosity	(mPa·s)	600	550
Glass transition temperature (T _g)	(°C) ASTM D 4065: 2001	74	85
Heat Deflection Temperature (HdT)	(°C) ISO 75 Ae: 2001	64	80
Flexural modulus	(MPa) ISO 178: 2001	2000	2200
Maximal flexural strength	(MPa) ISO 178: 2001	74	87
Tensile modulus	(MPa) ISO 527: 1993	1900	2000
Elongation at maximum stress	(%) ISO 527: 1993	4.6	6.7
Maximum tensile stress	(MPa) ISO 527: 1993	52	67
Elongation at break	(%) ISO 527: 1993	8.3	8.7
Maximum stress at break	(MPa) ISO 527: 1993	47	65
Maximum casting thickness	(mm)	50	50
Refractive index at 20°C	ISO 489: 1999	1.546	1.549
Hazen coloration on 50 mm thickness	ISO 2211: 1973	<30	<30

COMPLIANT FOR

REACH (SVHC list: December 2014)

RoHS 2011/ 65/ UE

End-of-life Vehicles Directive 2000/ 53/ EC

Waste Electrical and Electronic Equipment Directive 2002/ 96/ EC

2000/11/EC Directive 2000/ 11/ EC

¹ Tests realized on 50mm specimens

² For the exact data, please refer to our technical data sheet, subject to change. Heat resistance and mechanical properties measured after heat treatment