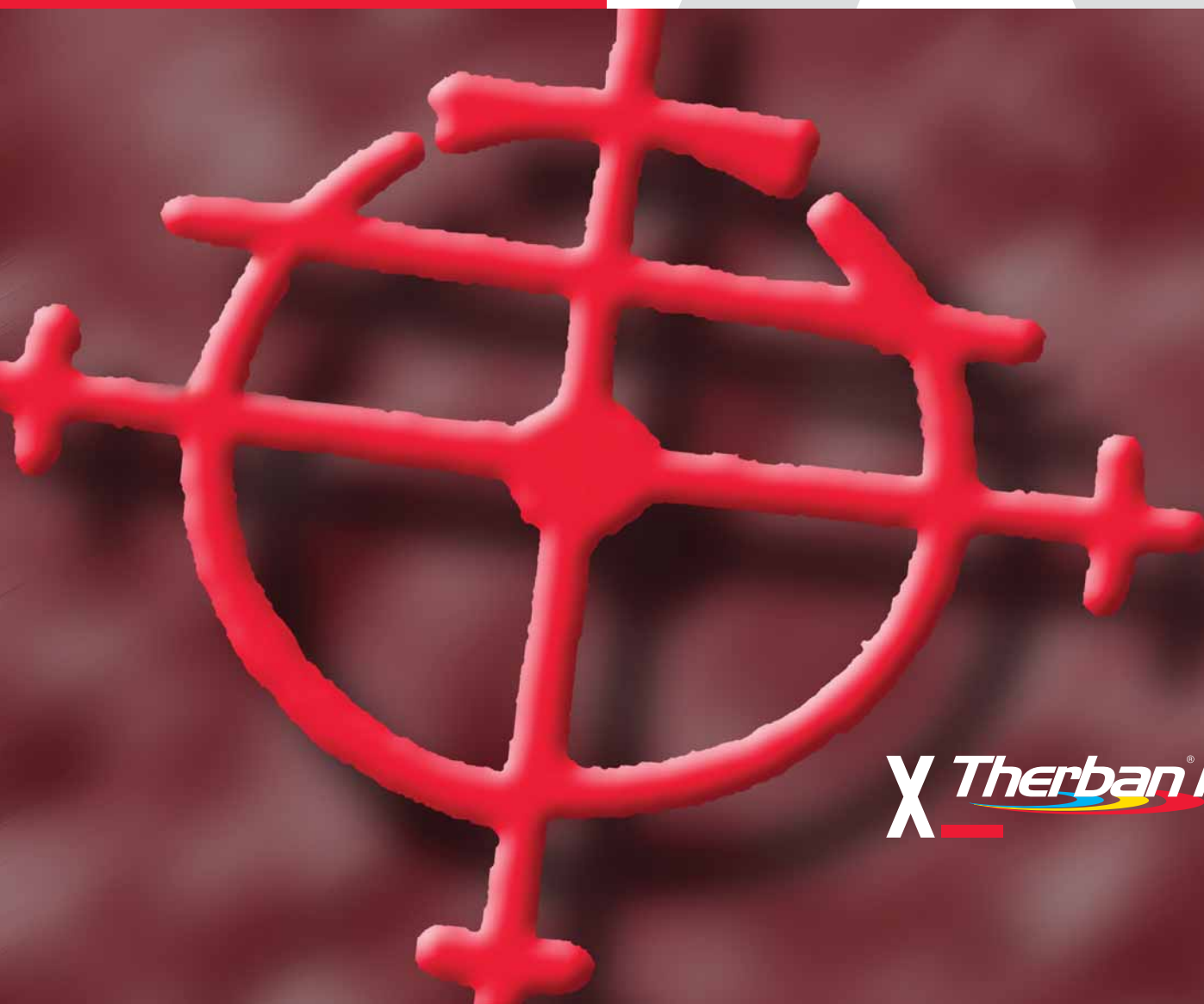


Discover

how to speed up your business
with new Therban® AT

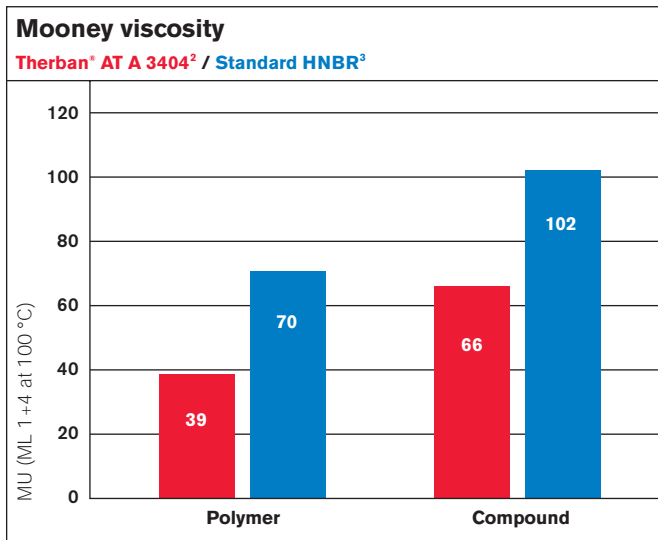


X *Therban® AT*

Accelerate processing with new Therban® AT!

Characteristics of new Therban® AT Grades:

Low Mooney – Advanced Technology – AT				
	Acrylonitrile content (%)	Mooney viscosity ⁽¹⁾ ML (1+ 4) 100°C	Residual double bond content (%)	Density (g/cm ³)
Therban® AT (Therban® AT A 3404 ²)	34.0	39	max. 0.9	0.95
Therban® AT C 3443 VP*	34.0	39	4.0	0.95
Therban® AT A 3904 VP*	39.0	39	max. 0.9	0.96
Therban® AT A 4304 VP*	43.0	39	max. 0.9	0.98
Therban® AT C 4364 VP*	43.0	39	5.5	0.98
Therban® AT LT 2004 VP* (Low Temperature/Low Mould Fouling)	21.0	39	max. 0.9	0.96



¹ unmassed (DIN 53523; ASTM D 1646)

² formerly Therban AT VPKA 8966

³ HNBR: 34 % ACN / < 0.9 % RDB / 70 Mooney ML 1+4 (100 °C)

New Therban® for improved processability

With its new Therban® AT grade, research scientists at LANXESS have achieved a breakthrough in process technology resulting in outstanding benefits for both processing and product properties.

Through a unique process, a linear low Mooney Therban® has been developed that avoids problems typically encountered during the mastication process.

Better flow, faster mold filling and shorter cycle times with Therban® AT

In comparison to regular HNBR grades, the low Mooney viscosity of new Therban® AT leads to better mixing at lower temperatures and therefore to overall cost reduction.

Rheovulcameter testing (opposite page) shows the beneficial effect of the significantly improved flow for injection molding. The use of Therban® AT may reduce mold filling cycle times by up to 50%. Alternatively, lower injection pressure or lower temperature can be applied. Extrusion rates can be increased by up to 40%. Benefits can also be observed for compression molding and transfer molding.

Improved sealing force retention with new Therban® AT

Due to the low Mooney viscosity of new Therban® AT, the use of plasticizers can be reduced or - particularly for crucial compounds - even completely omitted. Thus significantly improved sealing force retention upon aging is achieved.

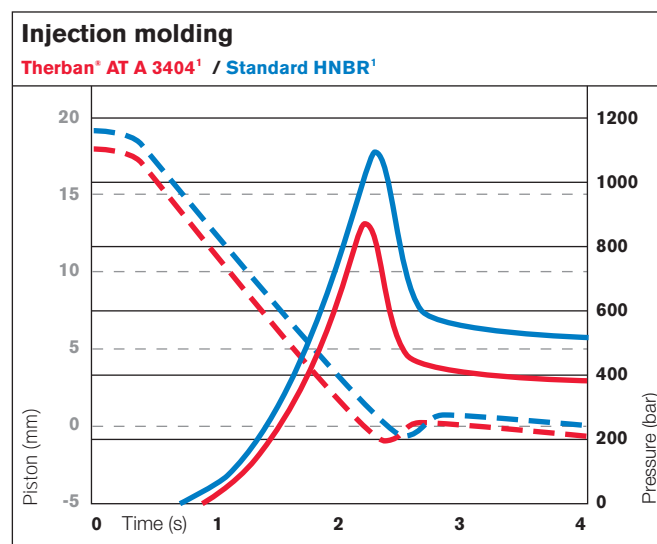
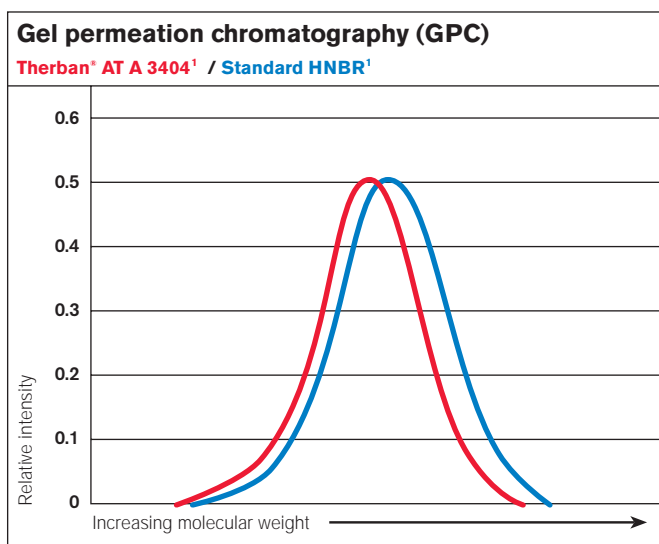
Discover the advantages of new Therban® AT as the raw material of choice, either applied alone or in a blend with another standard or specialty Therban® grade including LT, HT, ART and XT types!

Retention of physical properties** plus improved processability

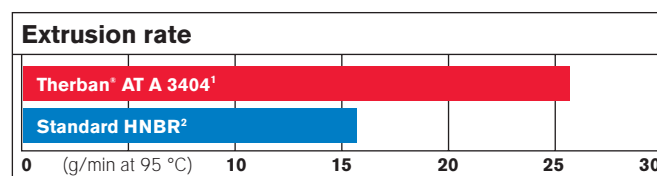
To achieve the well known physical properties of established Therban® grades, research scientists at LANXESS have developed a process to control the molecular architecture. While the lower molecular weight leads to improved processability, the narrow polydispersity of the new Therban® AT results in physical properties comparable to standard Therban® grades.

Faster production, smoother surfaces and sharper edges with new Therban® AT

The chart below shows the significant benefits of Therban® AT for injection molding and extrusion. Besides time and energy savings in processing, Therban® AT improves the quality of the finished article. Improved flowability results in smoother surfaces and sharper edges***.



Molecular weight		
	Therban® AT A 3404 ¹	Standard HNBR ²
M_n	65000	97000
M_w	177000	314000
M_w/M_n	2.7	3.2

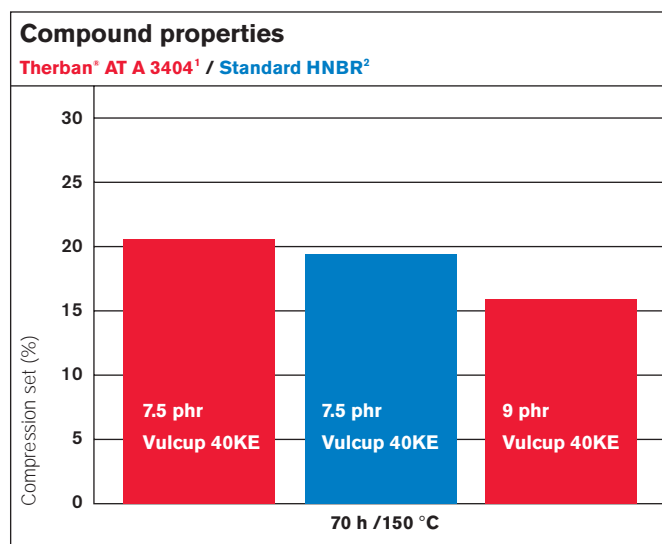


¹ formerly Therban AT VPKA 8966

² HNBR: 34 % ACN / < 0.9 % RDB / 70 Mooney ML 1+4 (100 °C)

Positive effects on vulcanizate properties** for new Therban® AT applications

The comparison of various compound properties shows only minor differences, which can be handled simply and safely. A possible slightly lower crosslink density can be compensated for by a minor adjustment of the crosslinking agent or through higher filler loading, which in turn even leads to a cost advantage.



Vulcup is a trademark of Hercules Inc.

	Therban® AT A 2304 ¹ 40 phr / 50 phr N330	Standard HNBR ¹ 40 phr N330
Modulus (100%) (MPa)	5.6 / 7.5	6.5
Ultimate tensile strength (MPa)	26.6 / 27.8	27.4
Ultimate elongation (%)	273 / 256	237
Shore A hardness (pts)	64 / 69	66
Compound Mooney	57 / 69	101

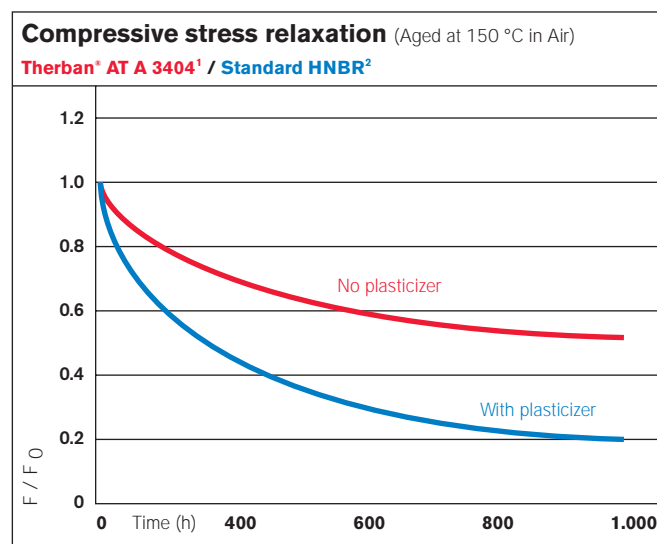
¹ formerly Therban AT VPKA 8966

² HNBR: 34 % ACN / < 0.9 % RDB / 70 Mooney ML 1+4 (100 °C)

Improved air aging resistance with new Therban® AT

Avoiding volatile plasticizers results in significant benefits upon aging.

The compressive stress relaxation test clearly illustrates that whenever long-lasting sealing force retention is needed, new Therban AT excels!



As the Therban® AT family is constantly being extended, please contact your local representative for latest information about new grades.

Find further detailed information on the Internet at:
www.therban.com

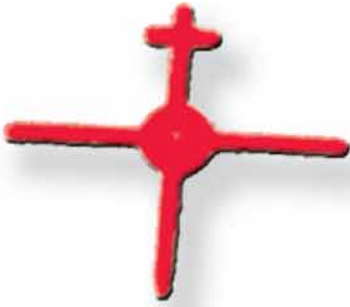
Rheovulcameter testing data

Therban® AT

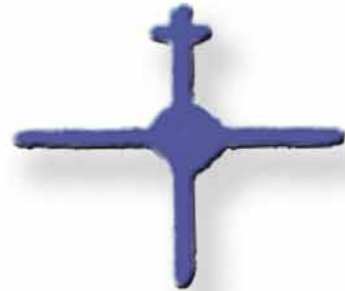
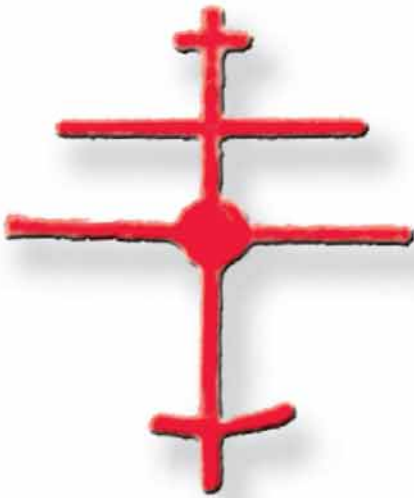
Standard HNBR¹

Injection pressure at 90° C

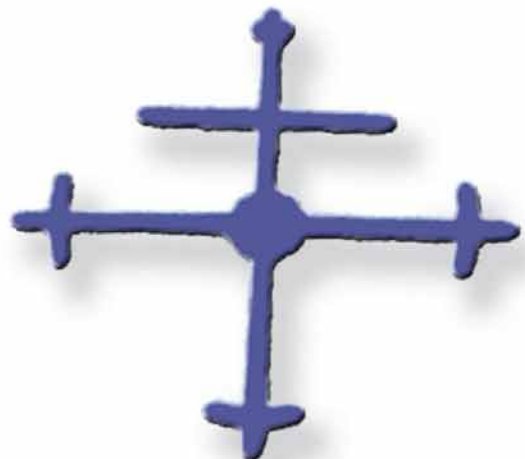
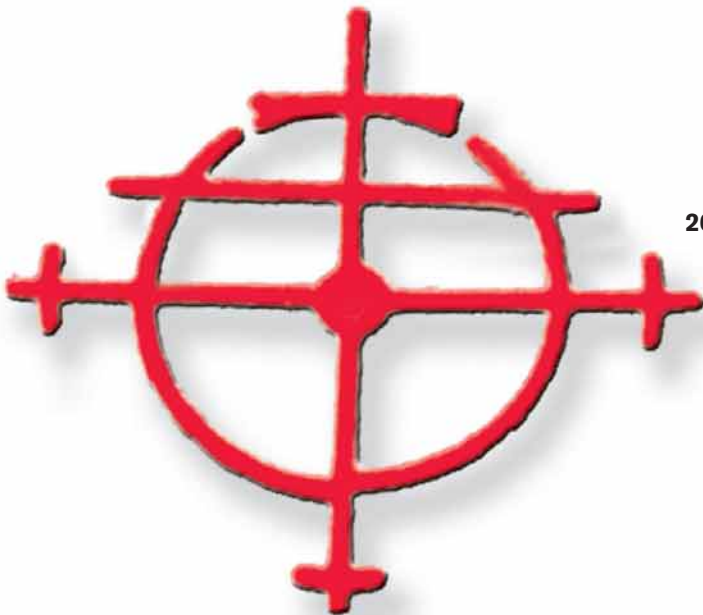
145 bar



220 bar



265 bar



Product safety: Relevant safety data and references as well as the possibly necessary warning labels are to be found in the corresponding safety data sheets.

Health and Safety Information:

Appropriate literature has been assembled which provides information concerning the health and safety precautions that must be observed when handling the LANXESS products mentioned in this publication. For materials mentioned which are not LANXESS products, appropriate industrial hygiene and other safety precautions recommended by their manufacturers should be followed. Before working with any of these products, you must read and become familiar with the available information on their hazards, proper use and handling. This cannot be overemphasized. Information is available in several forms, e.g., material safety data sheets and product labels. Consult your LANXESS representative in Germany or contact the Health, Safety, Environment and Quality Department (HSEQ) of LANXESS Germany or – for business in the USA – the LANXESS Product Safety and Regulatory Affairs Department in Pittsburgh, PA.

Regulatory Compliance Information: Some of the end uses of the products described in this publication must comply with applicable regulations, such as the FDA, BfR, NSF, USDA, and CPSC. If you have any questions on the regulatory status of these products, contact your LANXESS Corporation representative, the LANXESS Regulatory Affairs Manager in Pittsburgh, PA or the Health, Safety, Environment and Quality Department (HSEQ) of LANXESS Germany.

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* Trial product

(VP = Versuchsprodukt = trial product). The information contained herein is merely preliminary data. Testing as to properties and applications is not final. Further information, including data which could change or add hazards with use, may be developed. Such information may be needed to properly evaluate or use this product. Use is undertaken at the sole risk of the user.

** These items are provided as general information only. They are approximate values and are not considered part of the product specifications.

*** As with any product, use of the products mentioned in this publication in a given application must be tested (including field testing, etc.) by the user in advance to determine suitability.

Note: The information contained in this publication is current as of March, 2007. Please contact your LANXESS representative to determine if this publication has been revised.

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