

**LANXESS**  
Energizing Chemistry

**Discover**

how to speed up your business  
with new Therban<sup>®</sup> AT

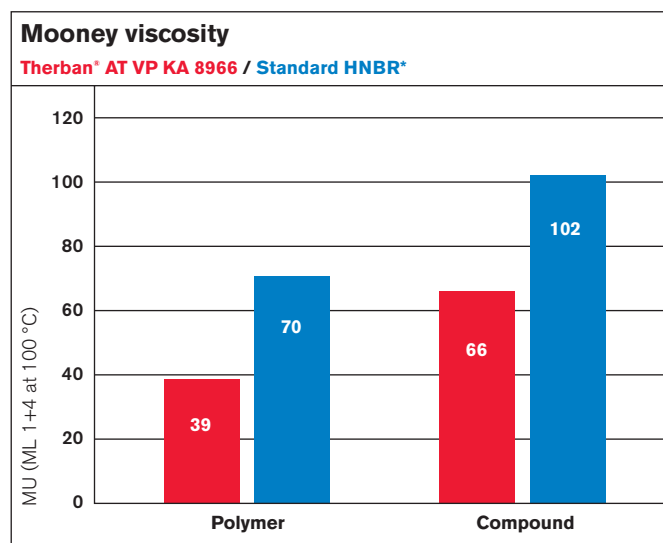


**X** *Therban<sup>®</sup> AT*

# Accelerate processing with new Therban® AT!

## Characteristics of new Therban® AT Grades:

Advanced Technology – Low Mooney				
	Acrylonitrile content (%)	Mooney viscosity <sup>(1)</sup> ML (1+ 4) 100°C	Residual double bond content (%)	Density (g/cm <sup>3</sup> )
Therban® AT VP KA 8966* (anticipated trade name: Therban® AT A 3404)	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



\* 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.

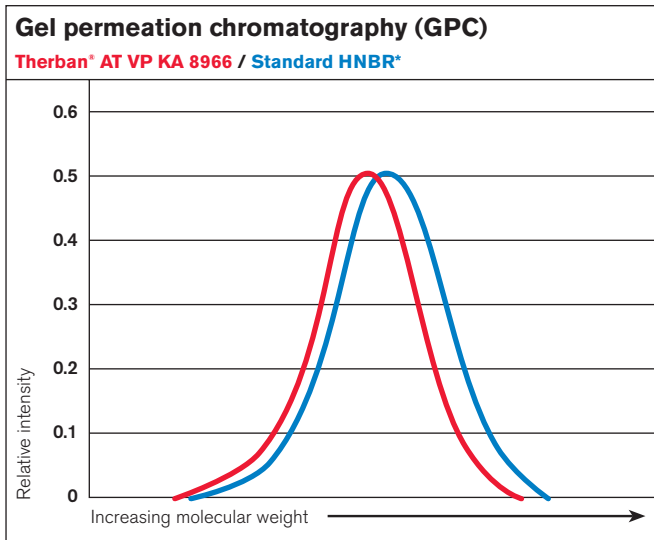
## Improved sealing force retention with new Therban® AT

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.

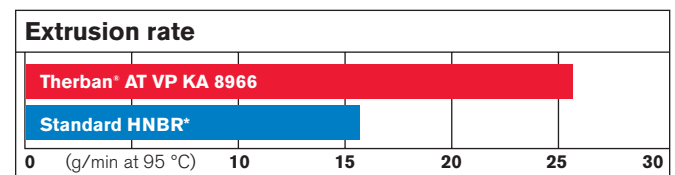
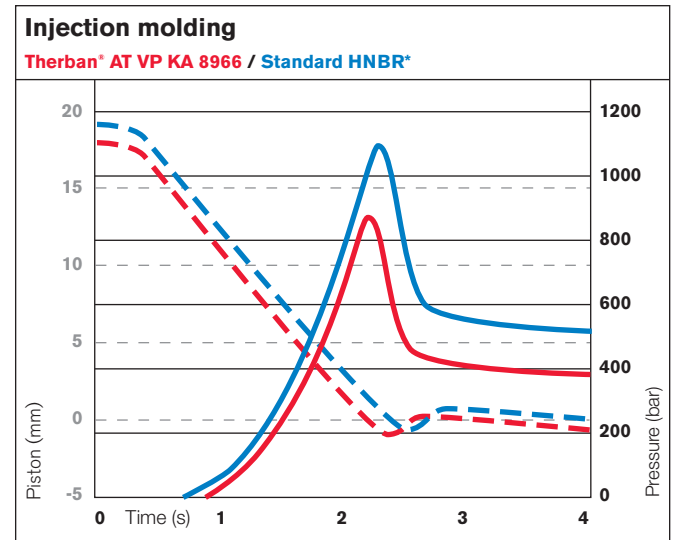


Molecular weight		
	Therban® AT VP KA 8966	Standard HNBR*
$M_n$	65000	97000
$M_w$	177000	314000
$M_w/M_n$	2.7	3.2

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

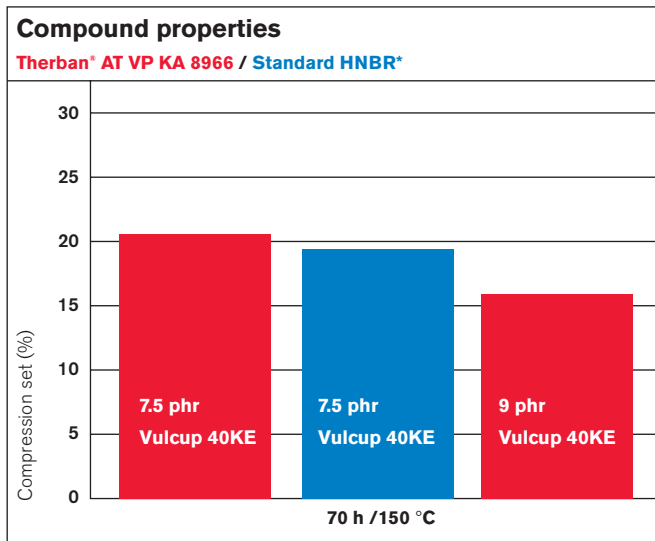
## Faster production, smoother surfaces and sharper edges with new Therban® AT

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.



## 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.

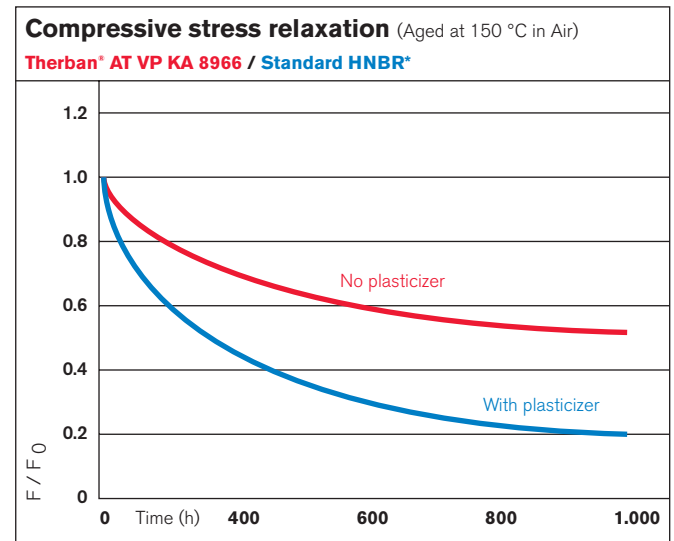
	Therban® AT VP KA 8966 40 phr / 50 phr N330	Standard HNBR* 40 phr N330
Modulus (100%) (MPa)	5.6 / 7.5	6.5
Ultimate tensile strength (MPa)	26.6 / 27.8	27.4
Ultimate elongation (%)	273 / 256	237
Shore A hardness (pts)	64 / 69	66
Compound Mooney	57 / 69	101

\* 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](http://www.therban.com)

# Rheovulcameter testing data

**Therban® AT**

**Standard HNBR\***

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:

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