



Styrelf®

Performance
made to last



TotalEnergies



For secondary and main road networks, as well as freeways, the Styrelf® range allows you to meet all market requirements.



A high-performance binder

- ✓ **LOGISTICS MADE EASIER**
 - Perfect stability during storage
- ✓ **EXCELLENT DURABILITY**
 - Exceptional elasticity characteristics
 - Reduced thermal vulnerability
 - Increased aging resistance
 - Binder performs well at low temperatures

à basse température



An asphalt mix with exceptional properties

- ✓ **RESISTANCE TO THERMAL SURFACE CRACKING**
 - Excellent resistance to cracking
- ✓ **RESISTANCE TO FATIGUE**
 - Much higher than asphalt based on pure bitumen
- ✓ **RESISTANCE TO RUTTING**
 - Very good performance at high service temperatures
- ✓ **RESISTANCE TO FRETTING**
 - High cohesion level



« Styrelf®'s high performance is the result of an innovative process in which an irreversible tridimensional polymer network is formed 'in situ' in bitumen. This network gives the Styrelf® binder remarkable final properties to ensure sustainability through durability.»

Mickael Lombard, Technical Manager

A full range

for all networks, covering
a number of applications

Styrelf® X SERIES

For heavy-duty roads

Styrelf® RC

or recycling heavy-duty roads

Styrelf® INTAKT

For hydrocarbon-resistant asphalt

Styrelf® GP

For racing circuits

Styrelf® ECO²

For hot-mix asphalt

Styrelf® AP

For improved adhesion

Styrelf® TR

For reduced viscosity



Styrelf® X SERIES

The reference for heavy-duty roads



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Styrelf® X SERIES

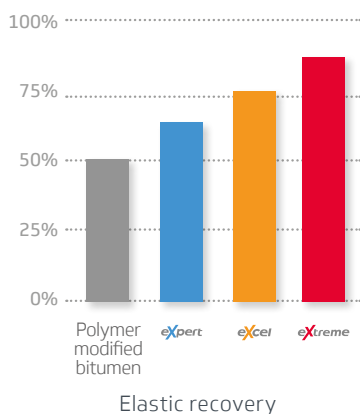
three performance levels
to meet the most stringent
market requirements



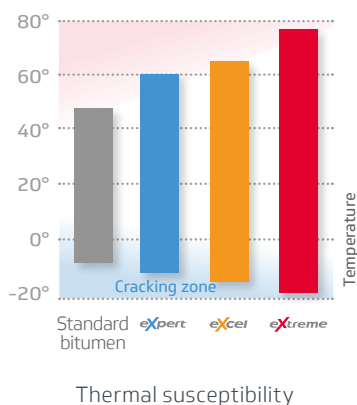
top performance

thanks to an innovative “in-situ”
polymer-reticulation process in bitumen

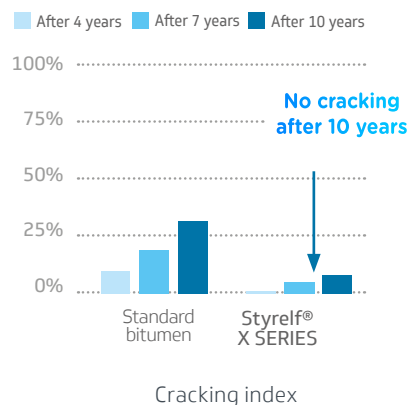
Exceptional elastic performance



Reduced risk of premature road failure



Greater longevity for the road way



Styrelf[®] RC

The high-performance binder
specially formulated for
customized recycling



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Styrelf® RC,

To incorporate more asphalt aggregates while preserving their durability.



OUR OFFERING



Recommendation of the Styrelf® RC grade that best meets your specifications



A binder specially formulated for your recycling operations



HOW DOES IT WORK?

Submit your specifications

- Recycling rate
- Characteristics of the aged binder
- Target characteristics for the fresh binder



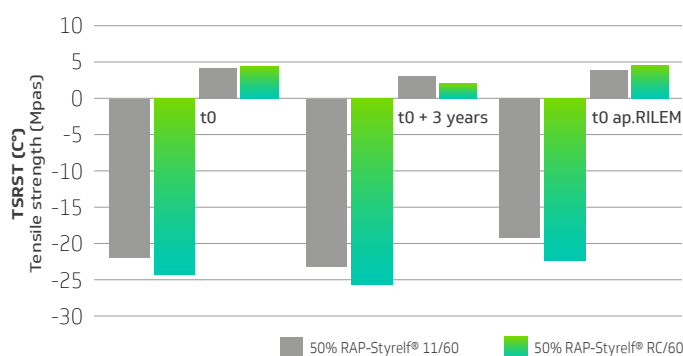
Recommendation from bitumen experts

The Styrelf® RC grade best suited to your recycling operation



Begin your formulation study with the recommended binder

BETTER PERFORMANCE, BETTER DURABILITY!



Assessment of performance of the binders Styrelf® RC and Styrelf® 11/60. Asphalt aggregates are recycled (at 50%) in both formulas.

This comparison demonstrates less aging of the road with use of the Styrelf® RC binder compared to the Styrelf® 11/60.

Values measured at low temperature via the uniaxial TSRST test (performed on the A72 freeway in partnership with ASF and EUROVIA).



Styrelf[®] ECO²

ready-to-use technical
solution for reduced
temperature asphalt mix



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Styrelf® ECO²,

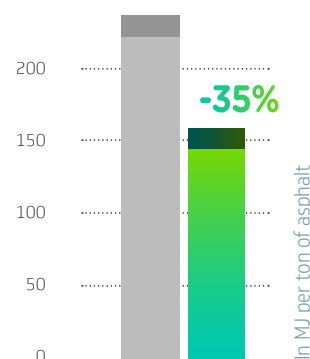
Performance at low temperatures



All by simply reducing the temperature!

Used for wearing courses and base courses.
Compatibility with the incorporation of recycled materials.
Faster return to traffic.

Energy consumption



Performance similar

to that of hot mix Styrelf®

- In terms of mechanical performance and durability



Lowering of temperatures

for coating and application by 40°C

- Energy savings
- Reduced CO₂ emissions



Ready to use

- No modifications needed to mixing plant equipment
- No investment needed to use reduced temp. mix technology

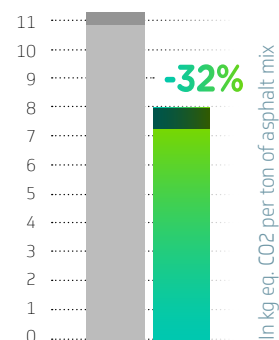


Improved comfort

and visibility for on-site teams

- Fewer fumes

Greenhouse-gas emissions in asphalt mix plant



■ Hot mix prepared with conventional modified bitumen
■ Reduced temp. coating with Styrelf® ECO²



Styrelf® AP

The technical solution
for better adhesion



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Styrelf® AP

The ready-to-use technology
that increases binder adhesion
to aggregates



**For effective, long-term protection
of roads against water**



Increased resistance
to water of asphalt



No additional handling
of additives in the asphalt mixing plant

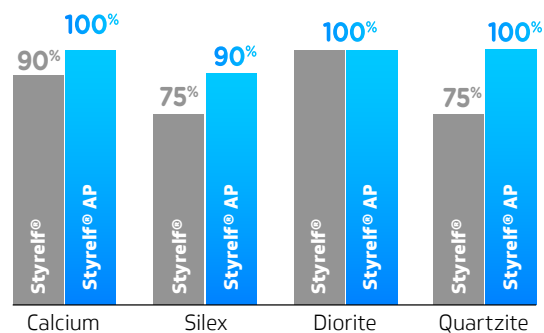


No modifications to industrial facilities
thanks to the ready-to-use binder



**Improved performances for all
aggregates, even those that
are difficult to coat**

- Can meet water resistance criteria for asphalt required by worksite specifications
- Maintains asphalt water resistance over time



Passive adhesion test EN 15626





Styrelf® GP
the reference for very high
performance roads, test tracks, etc.



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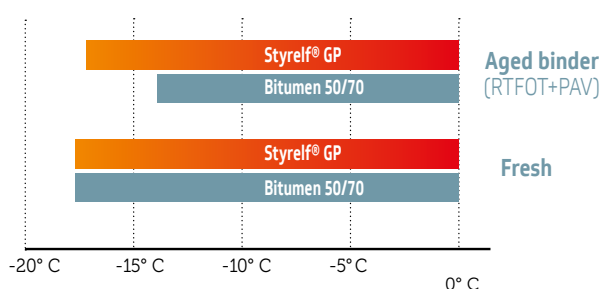
Styrelf® GP, The reference for circuits

OUR OFFERING

Maintenance over time of elastic properties

and resistance at low temperatures
for improved durability

SHRP criterion for $T_m = 0.3$ cold-temperature performance (°C)

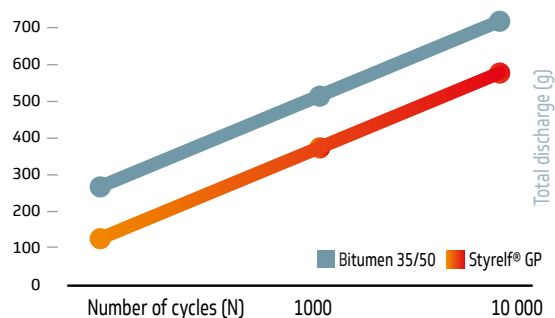


Styrelf® GP keeps its low-temperature
properties year after year on the road.

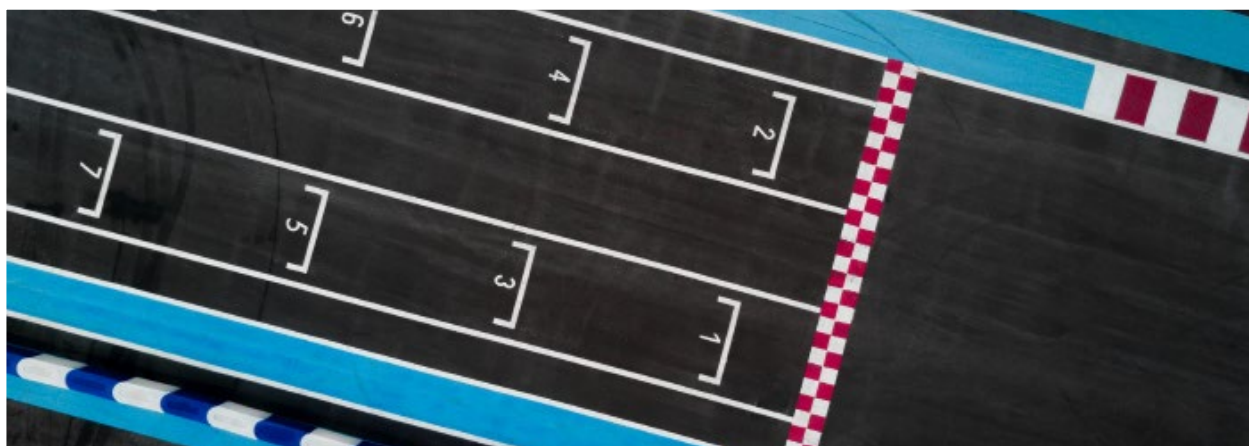
Better durability than conventional bitumen

30% higher resistance to fretting
compared to bitumen 35/50

TotalEnergies test on turntable at 25°C



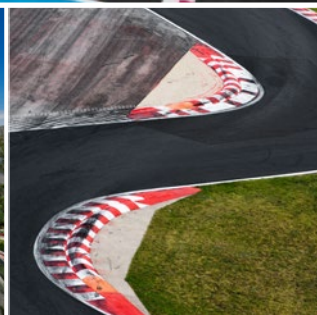
Styrelf® GP throughout the world



Misano Circuit
(Italy)



Monaco Circuit
(Monaco)



Minneapolis Circuit
(U.S.A)



Alès Circuit
(France)

Styrelf® TR

the technical solution
for industrial sites



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Styrelf® TR,

The technology is now accessible
to all industrial sites
thanks to adapted viscosity.



**For applications requiring
highly modified binders**
in areas where application is difficult



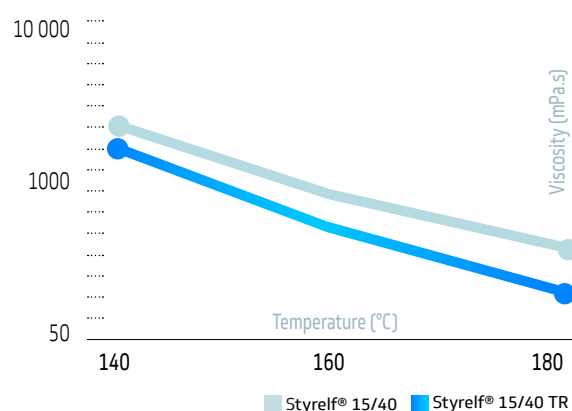
No modification
of the industrial facility



Energy savings
thanks to lower temperature
of **up to 15°C**

**To manufacture durable
asphalt easily**

Reduced viscosity



An aerial photograph of a white and blue commercial airplane on a tarmac. The plane is angled towards the bottom left, with its nose pointing towards the center of the frame. Yellow ground markings are visible on the asphalt. The background is a dark, textured surface.

Styrelf® INTAKT

the reference specially designed for
parking or storage facilities that are
subject to hydrocarbon exposure



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Styrelf® INTAKT,

The solution specially designed for work sites that need increased resistance to hydrocarbons

OUR OFFERING



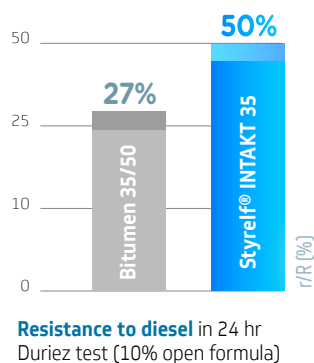
For areas subject to hydrocarbon exposure

- Parking areas and traffic lanes at airports
- Container terminals
- Service station traffic and parking areas
- Toll booths
- HGV parking facilities and bus stops
- Traffic lanes in plants and warehouses

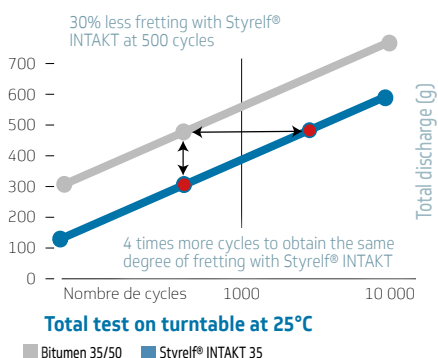
X2 RESISTANCE
TO HYDROCARBONS

Exceptional performance

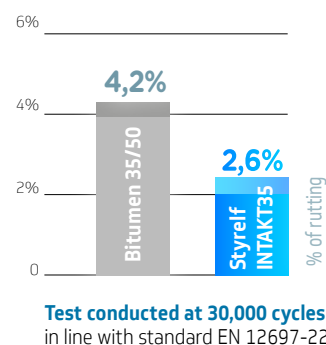
Increased resistance asphalt

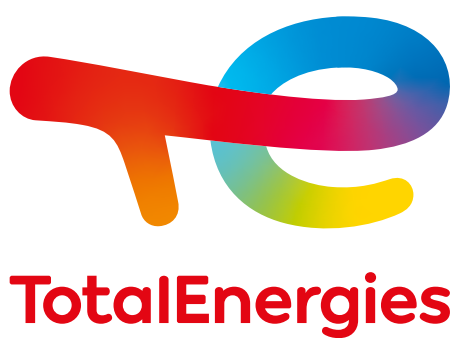


Excellent resistance to fretting



Excellent resistance to rutting





www.bitumen.totalenergies.com

 [TotalEnergiesConstructionSolutions](#)

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