ROADWAY SOLUTIONS’ mission is to develop and market innovative additives for asphalt mixes with the aim of improving the performance of roads while offering users more flexible solutions.
More flexibility and reactivity with a convenient solution
*An argument for competitiveness*

- Production in our site of Cabannes
- Pellets delivered in Hot-mix Plants
- Hot-mix Delivery on worksite
AVANTAGES DE NOS GRANULES

**DELIVERY**
- No minimum order quantity
- Easy to transport

**STORAGE**
- Easy to store
- Available at any time

**READY TO USE**
- Without preparation
- Direct introduction in the pugmill
ADVANTAGES OF OUR PELLETS

EASY TO USE
- Easy to dose - like fillers and fibres
- No change of processing parameters (mixing time or temperature)
- No need to modify the process of asphalt mixing plants: only a feeder to be added

PRODUCTIVITY
- Faster reply to customer’s request
- Accurate dosing depending on work requirements and performance
- Less product loss
- Choose bitumen according to availability and price
CONCLUSION DES AVANTAGES

FLEXIBILITY WITH ORDERING *with big bags and hotmelt bags packaging*

SUPPLY CHAIN OPTIMIZATION *with a product which is easier and quicker to use*

HOT-MIXES PERFORMANCES *Always maintained*

BEST PROFITABILITY *with controlled costs*
Roadway Solutions, A company always working to bring more agylity to its customers
Our range of products

- **RWelast®**
  - A new generation of Polymer modified Bitumen

- **RWplast**
  - Polyolefins-based additives

- **RW®Kerosafe+**
  - Anti-K

- **Rwcolor®**
  - Coloration of your mix
AREAS OF USE

- Airports
- Runways
- Parking areas
- Motorways
- Highways
- HeavyLoad areas
- Bridges
- Roundabouts

Improve road pavement sustainability

- High stresses
- For all type of climates
RW Elast®

SBS AND BITUMEN GRANULES FOR ASPHALT MIXES

A new generation of Polymer modified Bitumen
RW Elast® is a pellet composed of high modified bitumen with SBS type elastomers (Styren-Butadiene-Styren).

**Mecanical Stresses**
- Rutting
- Reduced adherence
- Permanent deformation

**Thermal stresses**
- Which cause:
  - Thermal cracking
  - Fatigue
  - Rutting

Une ALTERNATIVE ou un COMPLEMENT aux Bitumes modifiés aux Polymères (BmP) fabriqués en usine de liant
By strictly following specific manufacturing procedures, it is possible to prepare a PmB by using **RWelast®E** in the laboratory. Its performances can then be assessed and compared to existing product specifications or to a ready-to-use PmB.

The results below have been obtained with the same level of modifiers.

<table>
<thead>
<tr>
<th>Caractéristiques</th>
<th>BmP d’usine de liant</th>
<th>BmP fabriqué avec RWelast®E</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pénétration à 25°C (EN 1426 / ASTM D5)</td>
<td>58</td>
<td>53</td>
</tr>
<tr>
<td>Température Bille et Anneau °C (EN 1427 / ASTM D36)</td>
<td>90,5</td>
<td>90,5</td>
</tr>
<tr>
<td>Température FRAASS °C (EN 12 593)</td>
<td>-16</td>
<td>-14</td>
</tr>
<tr>
<td>Retour élastique (%) (EN 13 398 / ASTM D6084)</td>
<td>99</td>
<td>99</td>
</tr>
</tbody>
</table>
## TECHNICAL TRIALS

### 50/70 Bitumen Modifications with different % of RWelast®

<table>
<thead>
<tr>
<th>BmP reconstitué in lab from 50/70 bitumen from Repsol</th>
<th>Bitumen 50/70</th>
<th>7,5 % RWelast®</th>
<th>8,5 % RWelast®</th>
<th>9,5 % RWelast®</th>
<th>10 % RWelast®</th>
<th>12,5 % RWelast®</th>
</tr>
</thead>
<tbody>
<tr>
<td>TBA (°C)</td>
<td>49,2</td>
<td>56,8</td>
<td>62,6</td>
<td>71,9</td>
<td>78,1</td>
<td>86,0</td>
</tr>
<tr>
<td>Penetration (1/10e mm)</td>
<td>61</td>
<td>45</td>
<td>43</td>
<td>39</td>
<td>36</td>
<td>35</td>
</tr>
<tr>
<td>Fraas (°C)</td>
<td>-10</td>
<td>-11</td>
<td>-12</td>
<td>-12</td>
<td>-13</td>
<td>-13</td>
</tr>
<tr>
<td>elasticity(%)</td>
<td>0</td>
<td>56</td>
<td>79</td>
<td>87</td>
<td>87</td>
<td>92</td>
</tr>
</tbody>
</table>
Make the road go further

RWplast®

POLYOLEFIN ADDITIVES FOR ASPHALT CONCRETE
**RWplast®** is a polyolefin & minerals-based additive

- Rutting-resistant additive
- Higher modulus additive

*for surface courses*
*for middle courses (binder and base courses)*

**Responsables of:**
- Rutting
- Modulus

**Dosage:**
0.3 % à 0.8% of hotmix

Using polymers enhance thermomechanical properties of road pavements
OUR SOLUTION: RWplast®

Wearing Course Performances:
- High rutting resistance
- Better cohesion of asphalt mixes
- High resistance to hydrocarbons (kerosene, essence, gasoil)

Middle courses Performances:
- High modulus with the use of standard pen grade bitumen
- Minimum modulus easily attained or improved
- Better rigidity

Enable to reduce the thickness of layers.
compatible with all pen grade bitumen

- Better resistance to permanent deformation
- An increase in the road pavement lifespan
- A reduction in maintenance operations
**RWplast®**  
Additif anti-orniéant

<table>
<thead>
<tr>
<th>References</th>
<th>Thickness of the plates (cm)</th>
<th>Void content (%)</th>
<th>Tempreature of the test (°C)</th>
<th>Depth of ruts (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>BBSG 0/10 classe 1 (Exemple)</td>
<td>10,3</td>
<td>6,0</td>
<td>60,0</td>
<td>4,6</td>
</tr>
<tr>
<td>Test A with RWplast® (0,8%)</td>
<td>10,3</td>
<td>3,1</td>
<td>60,0</td>
<td>2,5</td>
</tr>
<tr>
<td>Test B with competitor product (0,8%)</td>
<td>10,1</td>
<td>3,8</td>
<td>60,0</td>
<td>2,6</td>
</tr>
<tr>
<td>Exigence de la norme NF EN 13108-1</td>
<td>-</td>
<td>3 à 6</td>
<td>60,0</td>
<td>-</td>
</tr>
</tbody>
</table>
RESULTATS SUR CHAUSSEE

Avec RWplast®  
Sans RWplast®
Roadway Solutions

Make the road go further

RW® KEROSAFE +

Pellets for ANTI-K ASPHALT
**RW KEROSAFE®+** is a polyolefin based additive designed for the manufacture of asphalt mixes (type BBAK), in order to increase the resistance to hydrocarbons (kerosene, gasoline, gas oil).

**Wearing course Performances:**
- Good resistance to hydrocarbons
- Good resistance to rutting and punching

**Area of use:**
- Airports: Taxiways, parking area
- Stations
- Heavyload parking...

Additive increasing the resistance to hydrocarbons of Asphalt Concrete
**Binder Performances**

- PG (SHRP):
  - High temperature of use

- European Standards:
  - Pen @ 25 °C
  - Melting point

**HotMix performances**

- Federal Aviation Administration (FAA):
  - Loss of mass after 24 h of immersion @ 25 °C

- Typical tests in France:
  - Duriez Resistance @ 18 °C
  - Loss of mass after 7 days of immersion
HotMix Loss of Mass

<table>
<thead>
<tr>
<th></th>
<th>BBSG 0/10 + 0.6 % RW® KEROSAFE+</th>
<th>Control BBSG 0/10</th>
</tr>
</thead>
<tbody>
<tr>
<td>Water</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Gasoil</td>
<td>0.03</td>
<td>3.2</td>
</tr>
<tr>
<td>Kerosene</td>
<td>0.62</td>
<td>3.9</td>
</tr>
</tbody>
</table>
RwCOLOR®

PELLETS TO COLORISE HOTMIXES
**RWcolor®** is a powder pigment & EVA pellet

**Mixing T°C:** similar to normal HotMix

**Mixing time:** 10 à 20 s more than normal mixing time

- **Security**
  - Voie piétonnière
  - Piste cyclable
  - ...

- **Ludique**
  - Lieux touristiques
  - Jardins
  - ...
EXAMPLE OF APPLICATIONS
We will be pleased to give you more information about our products.