SANFOLD®

Description
SANFOLD is a low density explosive formulated for use in underground blasting, designed to overcome segregation problems during loose pouring and pneumatic loading of explosive product. It has a TITAN® emulsion matrix content in addition to the ammonium nitrate, polystyrene beads and fuel oil components.

Application
The SANFOLD range of products provides a range of explosive strengths for applications that require lower strength explosives such as in perimeter blasting. The lower energy of SANFOLD combined with its excellent charge distribution ensures that vibration is minimised, wall control maintained whilst still achieving good fragmentation.

Packaging
SANFOLD is available in packaged form in plastic bags. SANFOLD 50 are available in 18kg, 12.5kg and 8kg plastic bags coloured green, purple and yellow respectively. SANFOLD 50 is delivered in 50 bag per pallet loads containing 900kg, 625kg and 400kg of product respectively.

Hazardous Shipping Description
Explosive, Blasting, Type E, 1.1D, UN 0082

Properties

<table>
<thead>
<tr>
<th>Sanfold Product</th>
<th>50:50</th>
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</thead>
<tbody>
<tr>
<td>Poured Density (g/cm³)</td>
<td>0.55</td>
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<tr>
<td>Pneumatic Loaded Density (g/cm³)</td>
<td>0.67</td>
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<tr>
<td>Energy (MJ/kg)</td>
<td>3.51</td>
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<tr>
<td>Minimum Diameter² (mm)</td>
<td>50</td>
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<tr>
<td>Minimum Diameter Pneumatically Loaded² (mm)</td>
<td>32</td>
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</tbody>
</table>

1. All Dyno Nobel energy values are calculated using a proprietary Dyno Nobel thermodynamic code. Other programs may give different values.
2. Minimum hole diameter will vary: Polystyrene content, product density and confinement.

Features and Benefits
▪ The TITAN emulsion in the formulation binds the ANFO and polystyrene together making the product ideal for use in inclined holes where segregation could occur whilst the sticky nature of the product keeps the explosive in the blasthole.
▪ SANFOLD is therefore particularly suited to perimeter blasting in uphole stopes, with the different blends allowing the explosive properties to be matched with the particular geology.
▪ As SANFOLD contains TITAN emulsion, it has an increase in water resistance over both ANFO and ANFO PS blends.
**Recommendations**

**Use** - SANFOLD is formulated both for use in upholes as well as horizontal or slightly inclined holes in drives. SANFOLD is also suitable in steeply inclined holes as product segregation is minimised due to the emulsion binding the ANFO and polystyrene beads together.

**Primming Requirements** - SANFOLD is not detonator sensitive. It must be primed with a suitable diameter cast primer or Powermite® Pro cartridge. If in doubt about specific priming requirements, please contact your Dyno Nobel representative.

**Water Resistance** - SANFOLD has limited water resistance.

**Ground Temperature** – SANFOLD is suitable for use in ground with a temperature of 0°C to a maximum of 55°C. For application in ground at higher temperatures, please consult your local Dyno Nobel representative and Regulatory Authority.

**Reactive Ground Conditions** - SANFOLD is not designed for use in reactive (pyritic) ground conditions. For applications in reactive ground conditions please consult your local Dyno Nobel representative.

**Shelf Life** - SANFOLD products should be used within three months where possible. The maximum storage life for SANFOLD is six (6) months under ambient temperature and low humidity conditions. Storage in a high humidity and high temperature environment will accelerate product breakdown and should be avoided. Signs of product degradation are hardening or caking which can lead to difficulty in loading and as a result, may lead to poor blasting performance.

**Sleep Time** - Under normal conditions in dry stemmed blastholes, SANFOLD may be slept for up to 30 days. The sleep time will be limited to the recommended sleep time of the initiating system. The presence of water will dramatically reduce sleep time. For additional information on sleep time please contact your local Dyno Nobel representative for your particular application.

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**Safe handling, transportation and storage**

**First Aid** – You can find detailed first aid information on the relevant Dyno Nobel Safety Data Sheet. Refer to [www.dynonobel.com](http://www.dynonobel.com) for more information if required.

**Safety** - All explosives are classified as dangerous goods and can cause personal injury and damage to property if used incorrectly.

**Transportation and Storage** - All explosives must be handled, transported and stored in accordance with all relevant regulations. Stock should be rotated such that older product is used first.