

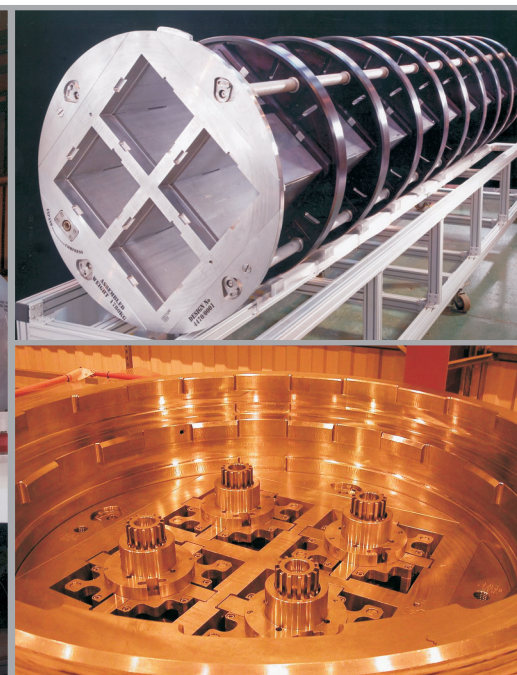
# MOX Fuel Transport Package (M4/12)

To deliver MOX fuel manufactured at the Sellafield MOX Plant (SMP) to European customers, International Nuclear Services (INS) has developed and manufactured a new transport package, the M4/12. The M4/12 design incorporates improved shielding and thermal performance, and more effective fuel loading and retention compared with alternative packages, ensuring minimisation of dose to operators and assurance that fuel quality is maintained in transport.

PWR basket



M4/12 including shock absorbers and road transport frame



Fuel clamps

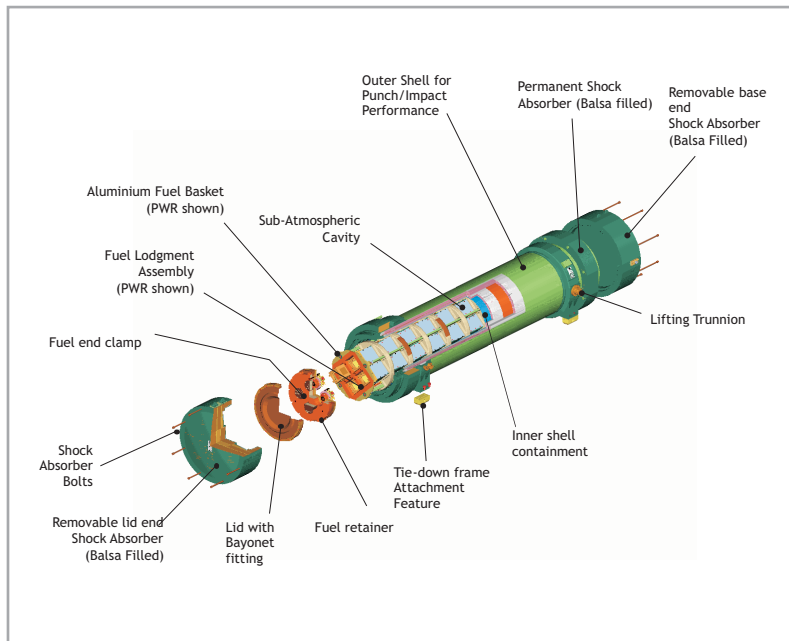
The package design is in accordance with the requirements of International Atomic Energy Agency (IAEA) TS-R-1 regulations for the safe transport of radioactive material 1996 edition for a B(U)F package.

The design of the package has been carefully optimised to ensure the maximum weight of the laden security vehicle falls within the limits of the European Road Transport Regulations without the need for overweight permits (40 tonnes).

The M4/12 design and manufacture is carried out in accordance with approved quality management systems complying with ISO 9001.

The M4/12 has benefited from INS' commitment to a programme of continuous technical advance in the areas of design, analysis and material technology, and reflects our continuing commitment to meet our customers' transport needs both now and in the future.

## Overview and technical specification – M4/12 package for the transport of MOX fuel



PWR and BWR clamp



Fuel clamp tool

<b>Intended use:</b>	Transport of MOX fuel								
<b>Licensing:</b>	GB/4469A/B(U)F-96 (PWR)								
<b>Payload:</b>	4 PWR or 12 BWR fuel elements.								
<b>Fuel:</b>	<table border="0"> <tr> <td>Maximum enrichment Puf(Pu+U)</td> <td>PWR fuel 6.25w/o</td> </tr> <tr> <td></td> <td>BWR fuel 7.45w/o</td> </tr> <tr> <td>Maximum activity value</td> <td>PWR fuel 5.87E+06A2</td> </tr> <tr> <td></td> <td>BWR fuel 7.27E+06A2</td> </tr> </table>	Maximum enrichment Puf(Pu+U)	PWR fuel 6.25w/o		BWR fuel 7.45w/o	Maximum activity value	PWR fuel 5.87E+06A2		BWR fuel 7.27E+06A2
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<b>Package Thermal rating</b>	3.2 kw								
<b>Size:</b>	6083mm overall length with shock absorbers 1530mm overall width across trunnions 5365mm overall with shock absorbers removed 1430mm diameter of shock absorbers								
<b>Weights:</b>	13,700 kg maximum gross weight loaded package (excludes transport frame) 624kg lid end shock absorber and attachment bolts 560kg base end shock absorber and attachment bolts								
<b>Materials:</b>	Flask body : duplex stainless steel Internal basket : boronated aluminium fuel lodgements in aluminium support structure								