



**TYPE APPROVAL CERTIFICATE**  
No. MAC045013XG

**This is to certify** that the product identified below is in compliance with the regulations herewith specified.

<i>Description</i>	<b>Bulkhead Seals</b>
<i>Type</i>	<b>Bulkhead Shaft Seal ESPEY WDK-BHS</b>
<i>Applicant</i>	<b>EAGLEBURGMANN ESPEY GMBH THOMAS-EDISON-STRASSE 19 47445 MOERS GERMANY</b>
<i>Manufacturer</i>	<b>EAGLEBURGMANN ESPEY GMBH</b>
<i>Place of manufacture</i>	<b>THOMAS-EDISON-STRASSE 19 47445 MOERS GERMANY</b>
<i>Reference standards</i>	<b>RINA Rules for Type Approval products, equipment and machinery</b>
<i>Reference documents</i>	<b>RINA Type Approval System</b>

Issued in **HAMBURG** on **May 27, 2013**. This Certificate is valid until **May 26, 2018**

  
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RINA  
**Giuseppe Russo**

This certificate consists of this page and 1 enclosure





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**Bulkhead Shaft Seal**

**Reference documents**

Espey WDK-BHS Bulkheadseal catalog 2012 and Bulkheadseal drawings approved with n. HMMC-3694, File 2013/XG/01/450; Report No. HMMC/2013/115/MBT, dated 06.05.2013.

**Fields of application**

Watertight shaft seal for rotating shafts penetrating bulkheads on cargo ships.  
(Not for class "A" division transitions)

**Technical characteristics**

Bulkhead shaft seal, consisting of a radially split housing made of stainless steel with segmented sealing elements of carbon-PTFE compound with circumferential spring.

**Technical ratings**

Shaft diameter range: 40 [mm] to 800 [mm]

Operating pressure: 3 [bar eff.]

Shaft sliding velocity: 40 [m/s]

Radial play: max. 5 [mm]

Angular misalignment: max. 2°

**Leakage rates**

Verified leakage rates

Shaft diameter up to 100 mm: max. 0,195 l / min as tested

Shaft diameter up to 320 mm: max. 0,885 l / min as tested

Shaft diameter up to 800 mm: max. 2,385 l / min as calculated

**Marking of product**

The product is marked with the manufacturers' trademark, order, position and sequential number.

**Acceptance conditions**

The sealing arrangement is only for use in bulkheads located between of dry compartments.  
The application and location of sealing devices are to be reviewed for each particular onboard installation on basis of local instance and permissible leakage rate.

For each supply intended to propulsion systems of RINA Classed ships, an information letter including type of bulkhead seal, hull number and shipyard or ship name is to be sent to RINA Hamburg Office.

**Remarks**

This certificate can be withdrawn in case of unsatisfactory working results of products, changes in RINA Rules or Law Acts coming into force.

The society must be kept informed of any changes in the product characteristics.

HAMBURG May 27, 2013

