



# Approval Certificate

Germanischer Lloyd

This is to certify, that the undernoted procedures have been approved in accordance with the relevant requirements of the GL Approval System.

Certificate No. **63 245 - 92 HH**

Company **E. Wood Limited  
Standard Way  
GB-Northallerton, North Yorkshire DL6 2XA**

Procedure **Composite Materials**

Type/Equipment/System **Thortex Metal-Tech E.G  
Thortex Cerami-Tech F.G**

Technical Data/  
Application **TECHNICAL DATA  
Types of composite material **Thortex Metal-Tech E.G  
Thortex Cerami-Tech F.G****

#### RANGE OF APPLICATION

The a.m. composite materials are approved for permanent repairs as follows:

#### 1. Machinery components

Cooler jackets          Evaporators          Pipe bends

Pump casings          Valve boxes

Sealing in the range of scavenging air and exhaust gas channels and tanks

#### 2. Rudder bushes

#### 3. Deck machinery:

Sliding bearings of hatch covers

Build-up of bearing shell cases for cranes and winches and of hydraulic pistons

#### 4. Sealing of insulation in the range of boilers and turbines

Approval Standard **Regulations for the Approval and Application of Composite Materials (Reaction Resins) for Repair and Seating of Components of GL**

Documents **- Technical data  
- Test report No. G89212/3 dated 15.01.1992 of SGS United Kingdom Ltd  
- Burning test report carried out by E. Wood Ltd. dated 21.07.1992**

Remarks **None**

Valid until **2007-07-30**

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File No. **XII.E.04**

**Hamburg, 2005-05-24**

**Germanischer Lloyd**

  
G. Hölzer

  
H. Markus



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Types of Composite Materials	Thortex Metal-Tech E.G	Thortex Cerami-Tech F.G
Specific Volume (cc/kg)	410	435
Density (g/cc)	2.44	2.30
Mixing Ration		
Base : Activator (by volume)	3 : 1	3 : 1
Base : Activator (by weight)	5 : 1	8 : 1
Usable Life at 20°C (min.)	25	25
Initial Set at 20°C (hrs.)	1	3
Full Cure at 20°C (days)	3	5
Cure Shrinkage (cm/cm)	0.0002	0.0002

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