GTF Freese
Marine Floorings

Application Instruction

TEFROKA® HLS Deck Covering

Application instruction for a roller applied deck coating on Landing decks of Navy vessels

Preliminary remarks

This application instruction supplies information for the user and does not claim to be complete. The actual object conditions need to be determined and considered during application. The instructions given in this document do not justify any liability claims against the author or manufacturer of the mentioned products. For handling and use of the materials latest safety data sheets have to be observed.

Field of application / limitations

Wear resistant, antislip outside deck covering for high mechanical strain on landing decks of navy vessels.

System overview

1	Surface preparation according to state of art.
2	TEFROKA® EP-Zinc Red Lead + 5-10 % EP Thinner: Application of 100µm wet for ca. 50µm dry
3	TEFROKA® EP-Zinc Red Lead +5-10 % EP Thinner: Application of 100µm wet for ca. 50µm dry
4	TEFROKA® EP-Iron Mica undiluted: Application of 100µm wet for ca. 50µm dry
5	TEFROKA® EP-Iron Mica undiluted: Application of 100µm wet for ca. 50µm dry
6	TEFROKA® HLS-Deck Covering, undiluted, buffer coat: Application of 500 – 600g/m² (330-400 µm)
7	Masking off the smooth areas, lashing pots using masking tape, e.g. tesa masking tape 4319 width 50mm
8	TEFROKA® HLS-Deck Covering undiluted, sprinkling coat: Application of 500 – 600g/m² (330 - 400 µm)
9	Remove masking tape.
10	Complete sprinkling: special fused alumina 0,5 – 1mm
11	Clean area by vacuum cleaner and broom
12	Masking off the smooth areas, lashing pots using masking tape e.g. tesa masking tape 4319 width 50mm
13	TEFROKA® HLS-Deck Covering + 5 % EP Cleaner, support layer: Application of 300 – 400g/m²
14	Remove masking tape
15	TEFROKA® HLS Sealer, undiluted, RAL 7012: Application of ca. 150g/m²
16	TEFROKA® HLS Sealer, undiluted, RAL 7012: Application of ca. 150g/m² (second coat to be applied shortly before delivery of the ship)

Storage

All materials need to be stored in a dry and cool but frost-free place, without direct sun. Maximum storage temperature 30°C, minimum storage temperature 5 °C. For solvents and solvent-containing products as well as hazardous materials generally relevant storage regulations for fire and explosion protection and water protection apply. Also see information given in the product safety data sheets.

Surface Preparation

Steel surfaces need to be prepared according to generally recognized technical rules resp. state of art. The substructure

has to be free from any dirt, adhesion reducing substances or loose parts and has to provide the necessary roughness.

Application corrosion protection

During application and hardening the coatings have to be protected from weather which might disturb the proper curing process. Especially fresh coatings have to be protected from rain, dew or other humidity as well as general water contact (e.g. accidental flushing or splashing). Application at temperatures higher than 30 °C or below 10 °C are not allowed and if necessary have to be prevented by shadowing or heated tent .
The substructure which is prepared according to technical rules is coated in two working steps with TEFROKA® EP Zinc Red Lead:
The hardener component (component B) is completely added to the main component (component A). Remainders on sides and bottom of the container are thoroughly scraped out and added to the main component. Main component and hardener to be mixed using a slowly turning mixing device (max. 400 rounds per minute) for approx. 3 minutes and thereafter filled in another clean pail (re-potted) and mixed again for one minute. The re-potting is of decisive importance for the complete hardening of the coating and thus for the efficiency of the corrosion protection. AFTER this mixing process approx. 5 - 10 % EP-Thinner are added. Mix again for abt. 30 seconds. Application is done in two working steps using a short pile lambskin od PE roller, wet consumption is 100 micrometer (wet) each coat. Compliance of the wet coat thickness has to be determined on random basis and to be recorded (10 measurements each 100 square meter). The second coat is applied after the area is suffiently hardened for foot traffic, latest however after 24 hours.
24 hours after application of TEFROKA® EP Zinc Red Lead application of TEFROKA® EP Iron Mica is done in two working steps as follows:
The hardener (component B) is completely added to the main component (component A). Remainders on sides and bottom of the container are thoroughly scraped out and added to the main component. Main component and hardener to be mixed using a slowly turning mixing device (max. 400 rounds per minute) for approx. 3 minutes and thereafter filled in another clean pail (re-potted) and mixed again for one minute. The re-potting is of decisive importance for the complete hardening of the coating and thus for the efficiency of the corrosion protection. AFTER this mixing process approx. 5 - 10 % EP-Thinner are added (i. e. mix. 1 liter thinner per 10 kg coating). Mix again for abt. 30 seconds. Application is done in two working steps using a short pile lambskin od PE roller, wet consumption is 100 micrometer (wet) each coat. Compliance of the wet coat thickness has to be determined on random basis and to be recorded (10 measurements each 100 square meter). The second coat is applied after the area is suffiently cured for foot traffic, latest however after 24 hours.

Application Wear Layer

During application and hardening the coatings have to be protected from weather which might disturb the proper curing process. Especially fresh coatings have to be protected from rain, dew or other humidity as well as general water contact (e.g. accidental flushing or splashing). Application at temperatures higher than 30 °C or below 10 °C are not allowed and if necessary have to be prevented by shadowing or heated tent .
The addition of EP-Thinner is not allowed except for the application of the support layer!

Application of the buffer coat:

The buffer coat is applied on the hardened and walkable TEFROKA® EP Iron Mica (applied max. 24 hours before). The buffer coat is made of TEFROKA® HLS Deck Covering as follows:
The hardener component (component B) is completely added to the main component (component A). Remainders on sides and bottom of the container to be thoroughly scraped out and added to the main component. Main component and hardener to be mixed using a slowly turning mixing device (max. 400 rounds per minute) for approx. 3 minutes and thereafter filled in another clean pail (re-potted) and mixed again for one minute. The re-potting is of decisive importance

for the complete hardening of the coating. For application in one working step use a short pile lambskin or PE roller, wet consumption is 400 micrometer (wet). Compliance of the wet coat thickness has to be determined on random basis and to be recorded (10 measurements each 100 square meter).

Application of the sprinkling coat:

After complete hardening of the TEFROKA® HLS Deck Covering buffer coat the areas with smooth surface (edges, lashing pots etc.) are separated from the sprinkled antislip areas using a suitable masking tape (e.g. tesa masking tape 4319, 50 mm wide). Thereafter the sprinkling coat made of TEFROKA HLS Deck Covering is prepared as follows:
The hardener component (component B) is completely added to the main component (component A). Remainders on sides and bottom of the container to be thoroughly scraped out and added to the main component. Main component and hardener to be mixed using a slowly turning mixing device (max. 400 rounds per minute) for approx. 3 minutes and thereafter filled in another clean pail (re-potted) and mixed again for one minute. The re-potting is of decisive importance for the complete hardening of the coating. For application in one working step use a short pile lambskin or PE roller, wet consumption is 400 micrometer (wet). Compliance of the wet coat thickness has to be determined on random basis and to be recorded (10 measurements each 100 square meter).
Immediately after application of the coating first of all the masking tape is drawn off (enter the areas within the coating wearing nail soles/shoes), afterwards the coating is sprinkled in excess using special fused alumina (0,5 - 1 mm).
After hardening of the sprinkling coat and sufficient binding of the special fused alumina the excessive sprinkling material is swept off resp. if necessary removed by vacuum cleaner.

Application of the support layer:

After removal of the excessive sprinkling material the smooth areas are again masked off with suitable masking tape (f.e. tesa masking tape 4319, 50 mm wide). The support layer made of TEFROKA® HLS deck covering is prepared as follows:
The hardener component (component B) is completely added to the main component (component A). Remainders on sides and bottom of the container to be thoroughly scraped out and added to the main component. Main component and hardener to be mixed using a slowly turning mixing device (max. 400 rounds per minute) for approx. 3 minutes and thereafter filled in another clean pail (re-potted) and mixed again for one minute. The re-potting is of decisive importance for the complete hardening of the coating. Only after both main component and hardener component are thoroughly and completey mixed max. 5 % EP Thinner may be added (maximum 5 litres per 10 kg coating) and stirred in using a slowly turning mixing device. For application in one working step use a short pile lambskin or PE roller. Consumption is max 400 g/m².
Immediately after application of the support layer the masking tape is removed, enter areas within the coating wearing nail soles/shoes.

Application Sealer

Application of the sealer coat using TEFROKA® HLS Sealer is done immediately after hardening of the support layer, latest 24 hours after hardening of the support layer. Smooth as well as sprinkled areas are protected with TEFROKA® HLS Sealer. The addition of solvents f.e. EP Thinner is not allowed.
The hardener component (component B) is completely added to the main component (component A). Remainders on sides and bottom of the container to be thoroughly scraped out and added to the main component. Main component and hardener to be mixed using a slowly turning mixing device (max. 400 rounds per minute) for approx. 3 minutes and thereafter filled in another clean pail (re-potted) and mixed again for one minute. The re-potting is of decisive importance for the complete hardening of the coating. For application in one working step use a short pile lambskin or PE roller.

Consumption approx. 150 g/m².

Application of the cosmetic final sealer coat:
Prior to application of the final sealer coat the area has to be thoroughly cleaned by high pressure cleaning using fresh water and if necessary loose parts to be removed and renewed. There must be no residual water on the surface when applying the sealer. The cosmetic final sealer coat is made of TEFROKA® HLS Sealer in one working step.
The hardener component (component B) is completely added to the main component (component A). Remainders on sides and bottom of the container to be thoroughly scraped out and added to the main component. Main component and hardener to be mixed using a slowly turning mixing device (max. 400 rounds per minute) for approx. 3 minutes and thereafter filled in another clean pail (re-potted) and mixed again for one minute. The re-potting is of decisive importance for the complete hardening of the coating. For application in one working step use a short pile lambskin or PE roller. Consumption approx. 150 g/m².

Coverage/Consumption

Total consumption:
TEFROKA® EP-Zinc Red Lead: approx. 520 g/m²
TEFROKA® EP-Iron Mica: approx. 330g/m²
TEFROKA® HLS-Deck Covering: approx. 1,6 kg/m²
TEFROKA® HLS Sealer: approx. 300 g/m²

Safety instructions

Read and observe safety data sheets!

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Protective measures:
Eye protection: goggles
Hand protection: Nitril coated cotton gloves
Respiratory protection: Use particle filter P2 when working at higher dust exposure.
Skin protection: Use protective fatty cream for all uncovered skin.

First Aid
With every first aid measure: observe self-protection and call a doctor immediately.
After eye contact: Rinse for 10 minutes under running water with the eyelids held wide open or use the eyewash solution. Always consult an eye specialist.
After skin contact: Take off heavily contaminated clothing. Clean with plenty of soap and water.
After inhalation: Move persons out of the dusty area.