



JOTUN

Jota Armour

Non-slip coating for steel and concrete



Exceptional non-slip properties – safe passage for people and equipment

The single most common cause of injury at work is the result of a trip or a slip on smooth, wet, greasy or frosty surfaces. Jota Armour is an innovative non-slip coating specially designed to provide safe passage for people or equipment moving up, down and across steel and concrete areas such as decks, loading ramps and walkways.



Jota Armour combines highly effective anti-slip properties with practical and economic benefits that reduce material usage, lower labour costs and improve efficiency and economy – factors of extreme importance where time restraints are simply not acceptable.



Rough and tough

Jota Armour combines a high solids, surface tolerant, abrasion resistant anti-corrosive epoxy coating with a selected blend of fused aluminium oxide.

High coefficient of friction (COF)

The surface profile is rough with deep and sharp asperities creating a high COF that provides exceptional non-slip properties for people and equipment even when applied on a steeply sloping ramp or gangway.

Penetrates and adheres

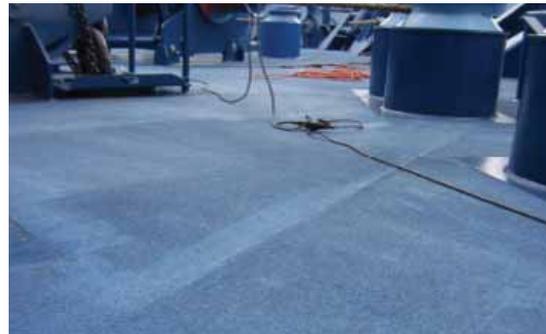
Being high solids and surface tolerant, Jota Armour flows into a consistent film and penetrates deep down into the substrate to provide excellent adhesion.

Surface tolerant

Whilst high surface preparation standards will improve performance, this may not be an option. Jota Armour, however, can be applied to a sound surface down to St 2.

Excellent performance

Jota Armour is resistant to abrasion, water, solvents and chemicals and is easy to clean.



Very high coefficient of friction – non-slip whatever the conditions

Jota Armour is designed to provide a non-slip surface whatever the conditions, when wet, oily or frosty, on the flat or at an angle. With its tough anti-corrosive properties, Jota Armour protects the substrate whilst protecting people and equipment in the harshest conditions.

DEF-STAN 80-134 Flight Deck Approved

Jota Armour has been independently tested to the rigorous standards required for approval under the Defence Standard 80-134 and has been granted 'Flight Deck' approval by the MOD in the United Kingdom for use on Royal Navy vessels.

To be granted DEF-STAN 80-134 approval eight test criteria must be met.

Jota Armour was tested under laboratory conditions with complete success.

The details of the tests are shown right:

Property	Requirements	Results
Scratch resistance (Using a load test)	No penetration of the film	✓
Resistance to ester lubricant (Half test panel submerged in lubricant at 70°C)	No blistering, softening, colour change or other defects	✓
Texture depth	Minimum texture depth 0.4–0.6mm	✓
Salt spray resistance	No blistering or other defects	✓
Impact resistance	No cracking, loss of adhesion or other defects	✓
Resistance to artificial weathering	No blistering, cracking or loss of adhesion	✓
Wear test plate (see note below)	Loss of mass to be less than 5g from test plate *	✓
Anti-slip properties	Coefficients of friction: Wet: greater than or equal to 0.7 Oily: greater than or equal to 0.3	✓

* The wear test consists of a loaded metal plate being drawn back and forth in contact with the test plate at 37 cycles per minute.

The wear blade is of mild steel to BS3900-part A3 2.1 and for the purpose of the test is loaded with a 5000g weight.

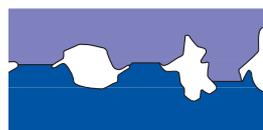
COF (coefficient of friction) explained

The importance of contact

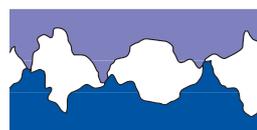
As two rough surfaces move against each other they stick and prevent motion. As the force that is pushing increases, the static friction increases too. Eventually the force will match the maximum static friction and the object will begin to move. After that point kinetic friction will start affecting the object.

Coefficient of friction (COF) – the key to non-slip surfaces

The coefficient of friction (COF) is the value between the horizontal force (the person or item moving on the surface)



If the surfaces are smooth the contact points are modest and provide high slippage



The sharper the contact points the greater the anti-slip properties

when slipping begins and the vertical force (the surface on which the person or item is moving). For example, a leather soled shoe on a smooth steel surface has a low coefficient of friction but a rubber sole on trowelled concrete has a high one.

COF – influencing factors

Other factors affect the COF including wear on the surface, exposure to the environment, build up of contaminants and lack of cleaning.

Jota Armour case histories – a track record of success

HMS Endurance



Flight deck –
First full coat of Jota Armour

Flight deck –
Second full coat of Jota Armour



Flight deck –
Completed with white markings

Starboard alleyway –
Completed with Jota Armour

Rig 'Nan Hai 2'



The rig 'Nan Hai 2', owned by CNOOC, during application of Jota Armour. A 200 µm coat of Primastic Universal was applied to the zinc silicate shopprimer (20 µm) followed by an 1800 µm coat of Jota Armour Grey. After touch up a 60 µm coat of Hardtop AS Green was applied.

M/F Bitten Clausen



Photo: Jesper T Andersen / jtashippphoto.dk



Built in 2001, the ferry Bitten Clausen sails the Als Sound between Ballebro and Hardeshøj in Denmark – less than one kilometre from coast to coast. In early 2007 the ferry carried its 1,000,000th vehicle. Each of these vehicles was driven over Jota Armour protected areas which are still performing well.

Institute of Master Mariners Walkway



Photo © www.danheller.com



A 120 µm coat of Jotamastic 87 followed by a 1000 µm coat of Jota Armour protects the walkway to the Institute of Master Mariners HOS Wellington moored in the River Thames. "After a year of extremely hard wear it is still in excellent condition," said Maintenance Engineer Martin Brownjohn.

Spray in one coat – fast, simple and easy to apply

No trowelling – simply spray

Unlike most trowel applied non-slip coatings, Jota Armour is spray applied. This is a far simpler process, no training is necessary – a ship's crew, for example, can paint a deck with Jota Armour whilst the vessel is at sea.

Application is easily done with a gravity feed hopper gun.



Ready to mix

The three Jota Armour components are delivered in one 20 litre tin ready for you to mix. Simple, no delay, no complicated mixing process.

3 components in one tin



Apply in just one coat

Most non-slip coatings involve a 3 stage operation to achieve a satisfactory paint system. Jota Armour is high build and can be applied in just one coat. Faster, simpler and more cost effective.

Application time
60m² / hour

Unrivalled benefits

Property	Benefit
One coat system	<i>Reduced application time</i>
Mix 3 components in the can	<i>Quick, easy</i>
Spray application	<i>Simpler, easier than trowel</i>
Self application	<i>Lower maintenance costs</i>
High build	<i>Longer lasting protection</i>
Low solvent content	<i>Reduced H&E impacts</i>

Choice of colours and topcoats

Jota Armour is available in a limited range of colours, including Grey BS 640, and can be overcoated with a variety of topcoats.



Jota Armour applied

Jotun worldwide

AUSTRALIA

Jotun Australia Pty. Ltd.,
P.O.Box 105, Altona North,
9 Cawley Road,
BROOKLYN, VIC 3025
Tel: +61 3 9314 0722
Fax: +61 3 9314 0423

AZERBAIJAN

Jotun Azerbaijan
12/14 Pushkin Street, Apt. 63
BAKU AZ0000
Tel: +994 1298 5890
Fax: +994 1298 6334

BRAZIL

Jotun Brasil Imp.Exp.e Industria de Tintas Ltda.
Estrada São Lourenco, no 751 Capivari,
25243-150 Duque de Caxias - RJ
RIO DE JANEIRO
Tel: +55 21 2776 1313
Fax: +55 21 2776 2263

P.R. of CHINA

Jotun Coatings (Zhangjiagang) Co. Ltd.
Jotun COSCO Marine Coatings Co. Ltd.
Floor 20, Jiu Shi Mansions,
No. 28 Zhong Shan Road (South)
SHANGHAI 200010
Tel: +86 21 6333 080 0
Fax: +86 21 6326 968 6

Jotun Coatings (Zhangjiagang) Co. Ltd.
Jotun COSCO Marine Coatings Co. Ltd.
Room 709-12, Goldlion Digital Network
Centre, 138 Tiyu Road East,
GUANGZHOU, 510620
Tel: +86 20 38 78 07 49
Fax: +86 20 38 78 19 66

HONG KONG

Jotun COSCO Marine Coatings (H.K.) Ltd
Room 1208, 12/F,
Stanhope House
734 King's Road, Quarry Bay
HONG KONG
Tel: +852 2527 6466
Fax: +852 2861 1307

CYPRUS

Jotun Paints (Europe) Ltd
P.O. Box 52177, 4061 LIMASSOL
visiting address:
Visionhire Bldg,
Corner: Manoli Kalomiri & Marikas Kotopouli,
3rd Floor, 3030 LIMASSOL
Tel: +357 253 744 55
Fax: +357 253 744 00

DENMARK

Jotun Danmark A/S
Tørnerosevej 127
2730 HERLEV
Tel: +45 4492 9400
Fax: +45 4492 9401

EGYPT

El Mohandes Jotun S.A.E.
El Sheikh Aly Gad El Haq Street
Florida Mall, Masaken Sheraton – 4th Floor
CAIRO
Tel: +20 2265 1800
Fax: +20 2265 1801

FINLAND

Nor-Maali OY
Vanhatie 20, 15240 LAHTI
Tel: +358 3 874 650
Fax: +358 3 874 6550

FRANCE

Jotun France S.A.
22/24 Rue du President Wilson, Bat.A
92300 LEVALLOIS PERRET
Tel: +33 1 4519 3882
Fax: +33 1 4519 3894

GERMANY

Jotun (Deutschland) GmbH
Winsberggring 25,
22525 HAMBURG
Tel: +49 40 851 960
Fax: +49 40 856 234

GREAT BRITAIN

Jotun Paints (Europe) Ltd.
Stather Road, Flixborough,
SCUNTHORPE DN15 8RR
Tel: +44 1724 400 000
Fax: +44 1724 400 100

GREECE

Jotun Hellas Ltd.
Skouze 26 Str.,
PIREAEUS 18536
Tel: +30 210 42 85 980-82/210 42 86 035-37
Fax: +30 210 42 85 983

INDIA

Jotun India Pvt. Ltd.
Prince Plaza 2nd Floor
73, Pantheon Road, Egmore
CHENNAI 600 008
Tel: +91 44 2841 9420 / 2851 0861
Fax: +91 44 2841 9513

INDONESIA

P.T. Jotun Indonesia Paints and Chemicals
Kawasan Industri MM2100
Blok KK-1, Cikarang Barat
Bekasi 17520
Tel: +62 21 8998 2657
Fax: +62 21 8998 2658

IRELAND

Jotun (Ireland) Ltd.,
Unit K7, Marina Commercial Park,
Centre Park Road, CORK
Tel: +353 214 965955
Fax: +353 214 965992

ITALY

Jotun Italia S.P.A.
Via Petronio, 8, Zona Ind. Noghere
34147 - MUGGIA (TRIESTE)
Tel: +39 040 23 98204
Fax: +39 040 23 98222

JAPAN

NKM Coatings Co., Ltd.
25-15 Higashi Ohi 5-chome
Shinagawa-ku, TOKYO 140-8520
Tel: +81 3 3472 3521
Fax: +81 3 3472 3481

KAZAKHSTAN

Jotun Boya San ve Tic. AS
Kazakhstan Repr. Office
Samal-1, Zholdasbekova Str. 32/20
ALMATY
Tel/Fax: +7 327 253 2447

KOREA (SOUTH)

Chokwang-Jotun Ltd.
119-9, Bukjung-Dong,
Yongsan City
KYUNGNAM 626-110
Tel: 82 553 856 600
Fax: 82 553 867 742

LATVIA

Jotun Paints (Europe) Ltd.
Representative Office,
Daugaygrivas 83/89
Office No.75, 1007 RIGA
Tel: +371 6747 3908/9
Fax: +371 6747 3907

LIBYA

Jotun Paints Libya
P.O.Box 80683, TRIPOLI
visiting address:
Gargaresh Road, Al Andalous district
TRIPOLI
Tel: +218 214 781 525 / 214 777 811
Fax: +218 214 780 718

MALAYSIA

Jotun (Malaysia) Sdn. Bhd.
Lot 7 Persiaran Perusahaan, Section 23,
P.O. Box 7050 40700 SHAH ALAM
Tel: +60 351 235 500
Fax: +60 351 235 632

THE NETHERLANDS

Jotun B.V.
P.O. Box 208
NL-3200 AE SPIJKENISSE
Visiting address:
Newtonweg 17A
NL-3208 KD SPIJKENISSE
Tel: +31 181 678 300
Fax: +31 181 617 899

NORWAY

Jotun A/S
P.O.Box 2021,
3248 SANDEFJORD
Tel: +47 33 45 70 00
Fax: +47 33 45 79 00

OMAN

Jotun Paints Co. LLC
Rusayl Ind. Estate, Road No.10
P.O. Box 672 Code 111, MUSCAT
Tel: +968 2444 6100
Fax: +968 2444 6105

PHILIPPINES

Jotun Singapore Pte. Ltd –
Philippines Branch Office, Unit 105/106,
Don Jesus Blvd, Kentucky Drive, Alabang Hill,
Muntinlupa City, METRO MANILA 1771
Tel/Fax: +63 2 809 7497

POLAND

Jotun Polska Sp.zo.o.
Ul. 10 Lutego 16, 81-364 GDYNIA
Tel: +48 58 555 1515
Fax: +48 58 781 9692

PORTUGAL

Jotun Iberica SA. (Suc. Portugal)
Estrada Vale ede Mulatas,
Armazern no. 5
2910-338 SETUBAL
Tel: +351 265 708 910
Fax: +351 265 708 563

QATAR

Jotun Qatar
Jotun Qatar
Gulf Commercial Centre, Gulf Street,
P.O. Box 24373,
Code-0974, DOHA
Tel: +974 4 412977
Fax: +974 4 415608

ROMANIA

Representative Office,
Jotun Paints Turkey
Str, Nicolae Jorga Nr 113A
8700 CONSTANTA
Tel: +40 241 516987
Fax: +40 241 513863
Mobile: +40 722 230961

RUSSIA

Jotun Paints O.O.O.
Stachek Avenue 57, No.31
198096 ST. PETERSBURG
Tel: +7 81 2332 0080 / 2785 0034
Fax: +7 81 2783 0525

SAUDI ARABIA

Jotun Saudia Co. Ltd.
Jeddah Industrial City, Phase 3,
P.O.Box 34698, JEDDAH 21478
Tel: +966 2635 0535 / 2636 1271
Fax: +966 2636 2483

SINGAPORE

Jotun (Singapore) Pte. Ltd.
11-15 Sixth Lok Yang Road,
Jurong, SINGAPORE 628111
Tel: +65 6265 4711
Fax: +65 6265 7484

SOUTH AFRICA

Jotun Paints South Africa (PTY) Ltd.
Wimbledon Road,
P.O.Box 187
BLACKHEATH 7581
Tel: +27 21 905 1070
Fax: +27 21 905 1652

SPAIN

Jotun Iberica S.A.
Poligon Santa Rita,
Calle Estatica no. 3
08755 Castellbisbal, BARCELONA
Tel: +34 937 711 800
Fax: +34 937 711 801

SWEDEN

Jotun Sverige AB
P.O. Box 151, Klangfärgsgatan 13,
421 22 VÄSTRA FRÖLUNDA
Tel: 46 3169 6300
Fax: 46 3169 6397

SYRIA

Jotun Syria
Mr. Anas Tayarrah,
c/o Arabian Enterprises
P.O.Box 9130, DAMASCUS
Tel: +963 116 113 820
Fax: +963 116 115 951
Mobile: +963 942 300 23

THAILAND

Jotun Thailand Ltd
Amata Nakom Ind. Estate (BIP11)
700/353 Moo 6 Tumbol
Donhualoh, Amphur Muang
CHONBURI 2000
Tel: +66 38 214 824-6/214 347-51
Fax: +66 38 214 373/375

TURKEY

Jotun Boya San. ve Ticaret. A.S.
Yeni Camlik Caddesi,
Ayaz Sok. No. 2/4,
4. Levent, ISTANBUL 80660
Tel: +90 21 2279 7878
Fax: +90 21 2279 2549

U. A. E.

Abu Dhabi
Jotun Abu Dhabi (LLC)
P.O.Box 3714, Mussafah
ABU DHABI
Tel: +971 2551 0300
Fax: +971 2551 0232

Dubai

Jotun U.A.E. Ltd. (LLC)
P.O.Box 3671,
Al Quoz Industrial Area
DUBAI
Tel: +971 4339 5000
Fax: +971 4338 0666

USA

Jotun Paints, Inc.
9203 Highway 23,
P.O. Box 159,
Belle Chasse, LA 70037
Tel: +1 800 229 3538
+1 504 394 3538
Fax: +1 504 394 3726

VIETNAM

Jotun Paints (Vietnam) Co. Ltd.
Song Than Industrial. Zone,
No.1 Street 10,
Di An District,
Binh Duong Province
Tel: +84 65 074 2206-9
Fax: +84 65 074 2205

YEMEN

Jotun Yemen Paints Co. Ltd
P.O. Box 70183, Al Alam
ADEN
Tel: +967 2820 546-9
Fax: +967 2249 362

HEAD OFFICE

Jotun A/S
P.O.Box 2021, 3248 Sandefjord, Norway
Tel: +47 33 45 70 00 Fax: +47 33 45 79 00
www.jotun.com

