NATO STANDARD

AFLP-1425

GUIDE SPECIFICATION (MINIMUM QUALITY STANDARDS) FOR LUBRICATING OIL, STEAM TURBINE AND GEAR LIGHT SERVICE (O-240 AND O-253)

Edition A Version 1
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NORTH ATLANTIC TREATY ORGANIZATION

ALLIED FUELS AND LUBRICANTS PUBLICATION

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NORTH ATLANTIC TREATY ORGANIZATION (NATO)

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NATO LETTER OF PROMULGATION

17 November 2014

1. The enclosed Allied Fuels and Lubricants Publication AFLP-1425, Edition A, Version 2 GUIDE SPECIFICATION (MINIMUM QUALITY STANDARDS) FOR LUBRICATING OIL, STEAM TURBINE AND GEAR LIGHT SERVICE (O-240 AND O-253) which has been approved by the nations in the AC/112, is promulgated herewith. The agreement of nations to use this publication is recorded in STANAG 1425.

2. AFLP-1425 is effective upon receipt.

4. This publication shall be handled in accordance with C-M(2002)60.

Edvardas MAŽEIKIS
Major General, LTUAF
Director, NATO Standardization Office

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RESERVED FOR NATIONAL LETTER OF PROMULGATION

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RECORD OF RESERVATIONS

CHAPTER	RECORD OF RESERVATION BY NATIONS
Note: The reservations listed on this page include only those that were recorded at time of promulgation and may not be complete. Refer to the NATO Standardization Documents Database for the complete list of existing reservations.	

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RECORD OF SPECIFIC RESERVATIONS

[nation]	[detail of reservation]
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SECTION 1 GENERAL

0101. This Guide Specification represents the minimum quality acceptable under NATO Code Numbers O-240 and O-253.

0102. Nations' specifications shall comply with these minimum requirements before the subjects of these specifications are accepted as standardized products under NATO Code Numbers O-240 and O-253.

0103. In order to promote product development, any nation's specifications may include additional tests of improved quality requirements to those in the Guide Specification.

0104. This Guide Specification shall be subject to review with the object of improving product quality as required by operational use.

0105. The requirements of this Guide Specification are largely based on the requirements of International Standard ISO 8068 (First edition, 1987-06-01) Petroleum products and lubricants – Petroleum lubricating oils for turbines (categories ISO-L-TSA and ISO-L-TGA) – Specifications. Products described in the second edition of this ISO standard, ISO 8068 (Second edition 2006-09-15) Lubricants, industrial oils and related products (class L) – Family T (Turbines) – Specification for lubricating oils for turbines, products L-TSA and L-TGA, have been determined not to meet the requirements of the navies.

0106. Both O-240 and O-253 as described by this AFLP are mineral oil based products.

0107. STANAG 1135, Annex C, lists under NATO Code Number O-240 national specifications which have been agreed as interchangeable for that NATO Code Number, and lists under NATO Code Number O-253 national specifications which have been agreed as interchangeable for that NATO Code Number. NATO Code 0-240 products are considered to be acceptable substitutes for products approved under NATO Code O-253, and vice versa.

0108. The quality standards contained in this document are to be used by Member Nations (MNs) in the preparation and maintenance of their individual procurement specifications and standards. An MN's individual procurement document may be more stringent depending upon its equipment. This AFLP is not designed to be used in the direct procurement of products.

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SECTION 2

NATO GUIDE SPECIFICATION FOR LUBRICATING OIL, STEAM TURBINE AND GEAR LIGHT SERVICE: NATO CODE NUMBER O-240 AND NATO CODE NUMBER O-253 (ISO VG 68)

SPÉCIFICATION GUIDE DE L'OTAN POUR L'HUILE LUBRIFIANTE TURBINE À VAPEUR ET ENGRENAGES SERVICE LÉGER: CODE OTAN O-240 ET CODE OTAN O-253 (ISO VG 68)

Ser	Property/Attribut	Unit/Unité	Requirement/ Exigence	Test Method/ Méthode d'essai
(a)	(b)	(c)	(d)	(e)
1	Composition/composition		Additives intended to improve anti-wear or load-carrying properties are prohibited./ Les additifs anti-usure ou d'extrême-pression sont interdits.	
2	Kinematic viscosity[1)]/ viscosité cinématique[1)] **O-240** at/à 40°C at/à 100°C **O-253** at/à 40°C at/à 100°C	mm^2/sec	 72 min. 90 max. 8.0 min. 61.2 min. 74.8 max. not specified/ non-spécifiée	ISO 3104
3	Viscosity index/ indice de viscosité	--	90 min.	ISO 2909
4	Pour point/ point d'écoulement	°C	-6 max.	ISO 3016
5	Flash point/ point d'éclair[2)] --1st method/première méthode: COC --2nd method/deuxième méthode : PM	°C	 186 min. 170 min.	 ISO 2592 ISO 2719

Ser	Property/Attribut	Unit/Unité	Requirement/ Exigence	Test Method/ Méthode d'essai
(a)	(b)	(c)	(d)	(e)
6	Foaming/ caractéristiques de moussage Sequence/séquence I 24°C Sequence/séquence II 93.5°C Sequence/séquence III 24°C	 ml ml ml	 450/nil max 50/nil max 450/nil max	ISO 6247
7	Air release at/ désaération d'air à 50°C.	minutes	10 max	ISO 9120
8	Water separability /séparation d'eau[2)], --1st method/première méthode -- 2nd method Time at 54°C to reach 3 mL emulsion/ deuxième méthode temps pour atteindre 3 mL d'émulsion à 54°C	 s minutes	 360 max 30 max	 DIN 51 589 Part 1 ISO 6614
9	Rust-preventing properties after 24 h/ Pouvoir de protection contre la rouille après 24 h	--	pass/ accepté	ISO 7120 Procedure B/ Procédure B
10	Corrosiveness to copper, 3h at 100°C/ corrosion lame de cuivre à 100°C pour 3h	--	1 max.	ISO 2160
11	Oxidation stability/ stabilité à l'oxydation[2)] 1st method/première méthode Total acidity and/ acidité totale et Sludge/ sédiments. 2nd method/ deuxième méthode Time to total acid number of 2.0 / temps nécessaire pour atteindre un indice d'acide total de 2.0 Sludge/ sédiments Acid number at/ indice d'acide à 1000 h	 mg/KOH/g % (m/m) h mg mg/KOH/g	 1.8 max. 0.40 max. 1500 min. 200 max. 0.3 max.	 ISO 7624 ISO 4263

1. The viscosity range of the lubricating oil covered by NATO Code O-240 is not a viscosity grade specified by ISO 3448.

   Le grade de viscosité de l'huile lubrifiante code OTAN O-240 n'est pas un grade de viscosité spécifié par la norme ISO 3448.

2. For this property, test method may be selected from the two alternatives listed based on national practice.

   Pour cette caractéristique, la méthode d'essai peut être choisie en fonction des pratiques de chaque nation.

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