



Curno, April 20th 2020

Messers
Triumph Motorcycles Limited
Hinckley | Leicestershire | LE10 3BZ |
United Kingdom

Via e-mail at Tom.kimberley@triumph.co.uk

Re.: Tungaloy Corporation Brake Pads made for Brembo

Dear Sir or Madam,

We (“Brembo”) make reference to the information communicated by Your Company, Triumph Motorcycles Limited, related to twenty-three field occurrences of friction material detachment from brake pads manufactured by Tungaloy Corporation (part number 07988236/07B80923 with compound material code BRM10B, “Tungaloy Pads”) for Brembo and equipped on motorbikes manufactured by Your Company.

Further to timely investigations recently completed despite the Covid-19 emergency situation, Brembo considers it necessary for Your Company to immediately:

- (i) discontinue the sale of all motorbikes equipped with Tungaloy Pads; and
- (ii) voluntarily institute and conduct a recall campaign of all motorbikes containing Tungaloy Pads and replace such brake pads in line with applicable requirements in the relevant countries (in the UK, Brembo understands this will be the *Manufacturers’ Guide to Recalls in the UK Automotive Sector*) and based upon the information provided in this letter in compliance with applicable local laws and regulations.

We also request that you provide the relevant authorities of all countries where the vehicles equipped with Tungaloy Pads on front brakes have been distributed with the information set out below, in accordance with any local applicable legislation and/or applicable guidance or codes of practice. .

Describe the defect or noncompliance: Tungaloy Pads could have potential issues involving detachment of brake pad friction material from the back plate, especially but not exclusively when used in a corrosive environment.

As a consequence, the vehicle front brake performance could be compromised in vehicles with Tungaloy Pads equipment.

Describe the safety risk: In case of detachment of Tungaloy Pads friction material from the back plate, the distance between the braking plate and disc cannot be balanced with a single action on the brake master cylinder. As a consequence, potentially defective pads can lead to an inadequate deceleration of the vehicle. Systems assembled with unaffected brake pads maintain their required performance. However, there may be an increased risk of driver injury and/or vehicle damage even if only one brake has an affected brake pad.

BREMBO S.p.A.	Sede legale	Sede amministrativa e uffici		
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Estimated percentage of product involved with defect:

All Tungaloy Pads delivered since January 2016.

Describe the cause:

The Pads’ manufacturer Tungaloy has advised that the root cause is linked to the following factors: (i) high concentration of Nickel in the compound does not favor the sintering process on the back plate and consequently causes a reduction of the adhesive area percentage; (ii) high porosity of the compound that allows infiltration of salt and water at the interface between the compound and back plate; and (iii) micro cracks on the back plate copper surface which promote the penetration of salt and water. As a result, the level of corrosion of Tungaloy Pads is higher than the maximum acceptable and indicated in the related drawing. This may result in high corrosion of the Tungaloy Pads and, as a consequence, the detachment from the back plate during vehicle use, specifically in corrosive environment.

Identify any warning which can precede or occur:

The failure may occur without any warning to the driver.

Chronology

September 2019– Brembo informed by Triumph of a Tungaloy Pads friction material detachment event in the field. No injuries reported.

October 2019- Brembo receives the brake pad from Triumph and initiates failure investigation.

November 2019- Brembo provides the brake pad received from Triumph to the brake pad manufacturer, Tungaloy Corporation, in order to analyze the sample together with the brake pad for further examination and analysis including with reference to rust ratio test.

January 2020- Brembo informed by Triumph of other 12 episodes of Tungaloy Pads friction material separation during vehicle use. No injuries reported. Brembo continues to support Tungaloy Corporation in searching the root cause.

End of March 2020– Investigation closed: the root cause was identified as above (please refer to “Describe the cause” above).
Tungaloy informs Brembo that a world-wide safety recall campaign is necessary for all Tungaloy Pads manufactured since September 2016.

Identify the Remedy

Official dealers will replace all Tungaloy Pads with other spare pads presenting an improvement of the interlayer with positive results from rust ratio testing. Tungaloy Corporation has tested these new brake pads



according to the proper procedure of rust ratio test and advised that the results are compliant with the tolerance threshold.
This replacement will be free of charge for customers.

Identify and describe how and when the recall condition was corrected in production Tungaloy Corporation is now manufacturing new brake pads with the new solution as indicated above starting from March 2020.

Contact of reference Mario Piccioni – Chief Quality Officer

In your communications, please use the language set out above. Any changes should be discussed beforehand with Brembo.

Looking forward to receiving your prompt feedback.

Yours sincerely.

Brembo S.p.A.



Sebastiano Rio
Motorcycle GBU Chief Operating Officer

Brembo S.p.A.



Mario Piccioni
Chief Quality Officer