

# DOZERS

## Track Noise Attenuation



**hushpak**  
engineering

...the quiet achievers

Hushpak Engineering has your solution to dozer noise. Our understanding of noise, together with our proven track record, tailored approach and readiness to take on a challenge enables us to solve your noise problem.

Hushpak has several products available to reduce track plate noise

### 1 IDLER WHEEL TREATMENT

Hushpak has developed a successful and cost effective method for damping idler wheels. Field testing shows Hushpak idler wheel treatment achieves up to **5dB(A)** reduction in the overall sound level of the dozer under most operating conditions. Attenuated idler wear rate is identical to non attenuated idlers. Reconditioning of attenuated wheels is a practical alternative to complete wheel replacement.

### 2 TRACK PLATE OR GROUSER DAMPERS

Installation of grouser dampers minimises reverberation of the track plates or grousers when the track chain strikes the sprockets and idlers. Grouser dampers are effective at removing up to **6dB(A)** from the dozer sound power level and improve operator comfort.

3 To complement track noise reduction, Hushpak offers a range of additional dozer noise attenuation packages, including treatment of:

- ✓ Exhaust
- ✓ Engine bay
- ✓ Cabin

As the role of dozers varies within each mine site, the noise reduction required and the role of the dozer must be considered before deciding how to best mitigate the problem.



**At Hushpak, we have been developing and refining noise attenuation products for dozers for almost twenty years. We understand that one size does not fit all and your particular noise problem may require a unique solution.**

**Hushpak Engineering continues to lead the way in research and development of dozer noise attenuation solutions. Our products and treatments successfully meet the challenge brought by the harsh environment of an operating dozer, while retaining suitable acoustic attenuation performance.**



## INDEPENDENT DOZER RESULTS

- ✓ **Cat D11 T:**  
4dB(A) reduction in 1st gear reverse to 115db(A) achieved
- ✓ **Komatsu 475:**  
6dB(A) reduction in 2nd gear forward to 114dB(A) achieved

## UNDERSTANDING TRACK PLATES

Noise from dozer tracks is generated wherever impact occurs in the drive train. Maintenance of track chain tension plays a significant role in noise emissions from dozer tracks.

### Q What are the primary sources of noise from track plate impact?

- 1 THE IDLER WHEELS**  
Noise reverberates through both the track plate and the idler wheel. Effective damping of the idler wheels can achieve a **3dB(A)** noise reduction from each idler, giving an overall reduction up to **5dB(A)**. Following this modification, the dominant source of noise is from the grouser plates as the track chain impacts the sprocket and idlers.
- 2 TRACK PLATE OR GROUSERS**  
Noise is emitted at the grouser plates as they impact on the sprockets and idler wheels. The grousers act like a sound board and reverberate at multiple frequencies significantly adding to the tonal noise of the machine. An overall reduction of up to **6dB(A)** can be achieved.

Hushpak follows International Standards for dynamic and stationary test conditions when evaluating noise impacts of earth-moving machinery such as dozers, haul trucks and excavators. Through experience, we know that realistic noise emission data is only achieved when dynamic test conditions are repeatable and representative. Hushpak use precise acoustic data to determine the best attenuation products to achieve compliance and a quieter workplace.

## 3 STEP PROCESS

- 1** Simulate dynamic test conditions to establish noise levels
- 2** Install Hushpak acoustic products to reduce noise levels
- 3** Demonstrate compliance by testing to Standards



Hushpak is a member of The Advitech Group – a collective of advanced technology, consulting and manufacturing businesses. Hushpak's products and expertise are complemented by this broader base of engineering, science and acoustic professionals.

Hushpak provides mobile machinery acoustic testing to determine noise exceedences. This allows Hushpak to further isolate the noise source through additional analyses (e.g. sound intensity analysis, occupational noise analysis). Hushpak then designs and manufactures suitable solutions. Novecom offers real time directional noise monitoring as part of its SentineX product line up.

ISO 6393:2008 Earth-moving machinery: Determination of sound power level (Stationary test conditions)

ISO 6395:2008 Earth-moving machinery: Determination of sound power level (Dynamic test conditions)

AS 2012.2—1990 Acoustics: Measurement of airborne noise emitted by earth-moving machinery and agricultural tractors (Stationary test conditions)