MOTORCYCLE HELMETS: CONSUMER SAFETY INFORMATION

SHARP

World Forum for Harmonization of Vehicle Regulations
145th session

June 2008

UK Department for Transport
Road Safety Policy

• Tomorrow’s roads – safer for everyone

• Strategy launched in March 2000

• First review published April 2004

• Second review published mid 2007
The Casualty Reduction targets

By 2010:

• 40% reduction in all KSIs
• 50% reduction in child KSIs
• 10% reduction in the rate of slight injuries

....and tackling the significantly higher incidence in disadvantaged communities

*compared to the average for 1994-1998*
Motorcycling Safety

- Is a key issue for UK – separate strategy published in Feb 2005

- Motorcyclists are one of our most vulnerable groups of road user – comprising just 1% of traffic in the UK but represent 19% of all road deaths.

- 80% of all motorcyclist fatalities and 70% of those with serious injuries, sustain head injuries.
Research

• COST 327 European research brought together experts from France, Germany, Hungary, Italy, Netherlands, Switzerland, Finland and United Kingdom and completed in 2001.

• Key outcomes included:
  
  • Location and frequency of blows to the head,
  
  • Determining the speed range of survivable head impacts
  
  • Recommendations for future test methods and criteria.
Research

- UK commissioned further studies to understand the protection provided by current helmets conforming to ECE Reg. 22.05.

- Results showed noticeable differences in the safety performance of approved helmets available in the market.

- Developed tests to establish which helmets provided greater safety potential than others, and objective assessment to provide purchasing information to motorcyclists.
SHARP – The Helmet Safety Scheme

- **SHARP** – the **Safety Helmet Assessment and Rating Programme** – was launched in November 2007.

- Helmets are rated from 1- 5 stars depending on how well they perform in the laboratory tests.

- The tests are based on the science - reflecting current state-of-the-art in design, as well as user exposure and injury risk (COST 327).
SHARP Tests

Linear Impact:

• twin-wire guided test based on British Standard BS 6658:1985 Helmet standard. The rig minimises the effect of energy dissipation through helmet rotation and rebound.

• Head forms of variable mass, as prescribed in UN-ECE Reg 22.05.

• Impact sites based around Reg 22.05 points, tested using flat and kerb anvils.

• Including one higher and one lower impact speed compared to Reg 22.05

Oblique impact: Reg 22.05, METHOD A.
**SHARP Assessment**

- Reg 22.05 underpins the SHARP assessment, therefore SHARP tests at ambient conditions. SHARP does **not** perform tests on retention systems or chin bars.

- Peak g recorded over 32 individual impacts performed on 7 helmets at 3 velocities.

- Overall helmet rating is weighted to take account of the frequency and direction of real world impacts.
Performance Differences

Side Impact (left) peak g

Acceleration "g"

velocity (m/s)
Dissemination

• Priority message is for motorcyclists to get a helmet that provides the best fit.

• Then consider the SHARP rating; the more SHARP stars a helmet has, the more protection it can provide.

• Several strands targeting manufacturers, retailers and consumers.
SHARP ratings

- Results published for 60 full face helmets on June 12.
- Testing continuing through 2008 to complete full face helmets (representing ~ 80% of UK sales),
- Moving on to system / flip front helmets and then open face.
- Tests valid for all types/ styles of helmet
Further information

• Available from the SHARP website
  www.direct.gov.uk/sharp

• or direct from sharp@dft.gsi.gov.uk