DEFENCE INFRASTRUCTURE ORGANISATION	**TECHNICAL ADVISORY SECTION (ROYAL ENGINEERS) (TAS(RE))** Headquarters Defence Training Estate Blenheim Hall Land Warfare Centre, Warminster, Wiltshire BA12 0DJ Tel: 01985 222434 FAX : 2259 Email: DE Ops DTE-HQEstDel8a frank.compton251@mod.uk	

RANGE ADVICE NOTE 4/11

See Distribution

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Reference:

A. JSP 403 Vol.2
B. BS EN 12620

SAND USED IN BULLET CATCHERS & STOP BUTTS.

1. **Background**. The detail in Reference A Chapter 2 sets out the requirements of a compliant sand bullet catcher or stop butt. From the questions and comments made during recent RTAAB visits there is a need to explain in more detail the rational behind some of the compliance statements in Reference A.

2. **Quality of sand**. The quality of sand is based on a grading curve set out in Reference B which is aligned with the European Commission mandate 89/106/EEC and so is valid in all EU countries. It is a *recommendation* in Reference A to aid stability of the slope and reduce the maintenance effort in maintaining that slope. The sand grading recommended (Table D1 0/4 CP (Coarse sand)) calls for a sand where 100% of the material passes through a 8 mm sieve and only 20% passes the fine 0.250 mm sieve. Sand containing a greater percentage of fine material will not present a safety hazard but will need more effort to maintain the 34 deg slope required. The other important property of sand is that it should not dissolve to dust when wet. A simple test is to rub what seems to be well graded sand between the palms of the hand; it should not breakdown to fine dust in the hands. Clearly after extended use the sand behind the MPI will be pounded to fine dust and will need to be rotated within the bullet catcher or replaced.

3. **Construction**. When used in Barrack Ranges sand is used throughout. External stop butts with complete sand faces are prone to wash out in heavy rain particularly if the sand has too many fine particles. To aid stability of the slope timber framing clear of the MPI may be used. The use of shooting in boxes described in Reference A Chapter 15 will help prevent such wash out and will ease maintenance.

4. **De leading**. To avoid backsplash from a build up of lead at the MPI the sand should be regularly checked by prodding in the areas behind targets. Reference A gives guidance on the frequency between checks but sand or granulate need only be de leaded when there is a build up of lead such that backsplash is going to become likely in the near future. Generally at the point where there is a significant build-up of lead the sand or granulate will have been reduced to fine dust and this will also need to be removed in the case of granulate, rotated or removed in the case of sand.

F S Compton
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