Standards on biomechanics : close to formal vote

TC 122 Ergonomics Working Group 4 is currently developing the series prEN 1005: Parts 1-5 on human performance related to safety of machinery. Not all parts are at the same stage of progress.

Parts 1 (*definitions*) and **3** (*force limits*) have been accepted by CEN TC 122 for the formal vote.

Part 2 (*manual handling*) is being put forward to formal vote after consideration of the outcomes of voting on the Technical Committee's enquiry, and in line with the recommendations of WG 4. The outcomes of the last TC enquiry on the **fourth** version of the draft were fairly disappointing. There were too few votes to send the standard to formal vote because of the higher-than-permissible percentage of abstentions. The reasons for the votes against ranged from insufficient coverage of all workers regardless of gender, complicated and misleading reference tables for identifying the user population, and disagreements on using limit values in the standard. In fact, the standard covers only 70% of the female population for the basic reference mass of 25 kg on which the risk assessment is based. Furthermore, in the same table, a reference mass of **40 kg** is cited, although there is no data available for the special population that would be able to handle such heavy loads. Nevertheless, TC 122 decided to submit the draft directly to formal vote, in the expectation that those countries which abstained will vote positively. Working Group 4 proposed that the TC Secretariat start the standard revision procedure as soon as possible, after its acceptance as a European standard.

Part 4 (*working postures and movements*) was revised and accepted for the second enquiry. Notwithstanding the majority positive vote in the first enquiry, the Working Group strove for a consensus by further changing the document in line with comments received, most of them editorial. There were, however, some comments on the results of the evaluation system and movement frequencies, specifically for the upper arms. The final draft sought to incorporate most of the comments without substantially changing the standard in ways that might jeopardize potential positive votes from some countries.

Part 5 (*repetitive work*) seems to be hard going for Working Group 4. A revised text was discussed at its special drafting group's last meeting in May. Not all participants were in favour of having one single quantitative model of assessment in the standard. Discussions focussed on certain values mentioned in the OCRA method[1] set out in the standard, that were considered very high specifically for new machinery (in particular the frequency of 60 actions/ minute).

On top of that, the German National Committee put a proposal to the last plenary meeting of CEN/TC 122 either to delete the work item or change the deliverable to a technical report. A standard might then be developed 2 years later. The reasons for this were lack of progress and too little evidence on which to base a risk assessment method of repetitive work. The counter- arguments put forward in the plenary were that standardization is always a lengthy process, and there are other examples of working groups taking longer than this to produce a final draft for a work item. This working group had already made considerable headway on this item. Secondly there was sufficient scientific evidence on the work relatedness of MSD and the need to produce a standard without further delay to support the relevant ergonomic essential safety requirements was clear. In the end, TC 122 voted down the proposal.

The prEN 1005 series of standards, especially parts 2 and 5, came under fire from the rapporteur of the Occupational Health & Safety Sector, Mr. Vigone, for purportedly setting limit values. He therefore initiated a meeting with the chairman and secretariat of TC 122 and the convenor of Working Group 4 to discuss the issues. The counter-arguments were that values cited in standards are only used as references for risk assessment methods. The outcome of the evaluation process was a risk index for both standards. Also, some misleading wording in the standards had already been removed in the most recent versions.

It was stressed that to avoid future problems in this area, the scope and content of standards should clearly state that they concern machinery design only. Finally, a decision was taken to draft a special resolution in the TC Plenary giving the Technical Committee on Ergonomics' agreement that all extensions of its work program on matters covered by Article 137 of the Amsterdam Treaty, will take account of the conditions set in CEN BT Resolution 22/1997[2]. How much this new resolution adds is questionable, however, since all CEN Technical Committees are already bounded by the BT's 1997 resolution.

It appears that the closer these series of standards get to the formal vote, the more forceful the objections become. However, not all adverse comments stem from the same grounds - anything but. The Nordic countries object to some parts of the standards because they set lower requirements than their national legislation and practices, while other countries think the existing requirements on manufacturers are set high enough.

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[1] See E. Occhipinti, D. Colombini, "Assessment of exposure to repetitive upper limb movement : An IEA consensus document", Special report on Musculoskeletal Disorders in Europe, in *TUTB Newsletter* No. 11-12, June 1999, pp. 22-26.

[2] Resolution BT 22/1997 in which the Technical Board of CEN approved the "Standardization policy in the area covered by Article 118A of the EU Treaty" (Document BT N4777, 1997-02-12).