IS 7454:2024 Rehabilitation equipment - Wheelchairs, folding, adult size - Specification (Second Revision)

Wheelchairs are mobility aids designed to help individuals with limited mobility move independently or with assistance. They can vary widely in terms of design, materials, and features, but typically have a strong, lightweight frame, a seat and backrest for comfort, two large rear wheels for movement, and two smaller front wheels (called castors) for steering. Many wheelchairs are foldable for easy transportation and storage, and they may have adjustable features such as footrests and armrests to enhance user comfort and support. The materials used are generally durable, non-toxic, and easy to clean, suitable for both indoor and outdoor use. Wheelchairs are expected to provide comfort as well as mobility to the user. They must withstand the intended load, and the castors, seat, and backrest should be soft to ensure comfort while also being durable to resist wear and tear. Stability is required both at rest and during movement.

The IS 7454:2024 standard specifies requirements for adult-sized folding wheelchairs for individuals with physical impairments. This standard covers Type 1 (attendant-controlled, non-powered) and Type 2 (user-controlled, manual drive) wheelchairs, outlining essential requirements for functionality, safety, and durability to support patient comfort and mobility. A wheelchair following this standard will provide stable support, comfort, and easy adjustability for users. The frame should be made from high-quality materials, like ERW/CEW tubing, for strength, while armrests, footrests, and castors should be designed for wear resistance and ergonomic support. The wheelchair's folding mechanism is expected to allow compact storage without compromising structural stability.

This Indian standard specifies necessary dimensions, material types, and design elements, including precise requirements for the frame, seat, backrest, and wheels to meet quality and performance expectations. Castor quality and other components are defined through referenced documents that provide guidelines for hospital equipment durability and safety. Detailed requirements for the freedom of movement of each part ensure smooth operation, with no obstructive or hazardous elements. To ensure user safety, the standard ensures that wheelchairs have no sharp edges and undergo impact, folding, load, and performance tests. The impact test verifies structural resilience, while the load test confirms that the wheelchair can support the user's weight without damage. The adhesion test ensures that paint does not peel, preventing any debris that could pose health risks to users.