

MINIMUM TECHNICAL SPECIFICATIONS OF DISH SOLAR COOKERS

Reflecting Bowl	
Parabolic dish made of single/ multiple reflectors fixed firmly to a rigid frame. The size and shape of the reflectors is such when joined/fixed they automatically form a parabolic dish	
Dish area	1 sq. m minimum
Reflecting mirrors	
i) Material	i) Bright anodized aluminum sheets/ glass mirrors/ polymer film/ any other better and durable material with protective layers of coating on back surface and sides to protect from exterior weathering effect. For coastal and colder regions, special protections to be made.
ii) Reflectivity	ii) 80% minimum with a maximum degradation of 10% over its life span. Warranty/ guaranty to be provided for a period of five years. To be replaced immediately if found deteriorating during this period.
iii) Mirror fixing	iii) With positive locking or sticking by good quality adhesives. Due protection of mirror coatings to be taken while fixing the mirrors. Tying of mirrors with wires not acceptable. For high wind areas special protection to be made.
Concentration ratio	Over 80
Bowl supporting frame	
The supporting frame for the reflecting bowl will be made of MS rings supported by MS strips or FRP material/ thick MS wire-mesh structure. It will be rigid enough to avoid any deformation of the bowl shape during manual/ handling or under wind pressure. The MS structure will have epoxy/ ant-rust coating.	
Bowl stand	
Of mild steel epoxy/ powder coated. With arrangement to hold cooking vessels of different sizes. With suitable provision for securing the cooker to the ground.	
Tracking mechanism	
<ul style="list-style-type: none"> • Manual or automatic • Designed to enable unrestricted 360o rotation to parabolic dish around its horizontal axis passing through its focal point and center of gravity and also around its vertical axis, for adjustment of the cooker in the direction of the sun. • With simple locking arrangement to hold/ fix the bowl at a particular position • With pointer/ other arrangement to facilitate users positioning of the bowl exactly in the direction of the sun. 	

Cooking vessel
ISI mark pressure cooker of suitable capacity. Resistant black powder coated bottom. In case, no vessel is supplied, the user needs to be told to paint the bottom of his vessel black.
Other requirements
<ul style="list-style-type: none"> • The entire structure will be strong enough to withstand wind of 150 km per hour without any damage • All parts/components will be of weather resistant design/specifications to withstand natural weathering outdoors under local climatic conditions, for a minimum period of 15 years. Warranty for a minimum period of 5 years will be provided by the supplier. Necessary spares will also be provided so that the user do not face any problem atleast during the warranty period.

Note:

Any improvements in the above specifications of all types of concentrating solar cookers, leading to cost reduction and/ or and higher efficiency will be acceptable. Manufacturers /suppliers will, however, provide necessary mechanism for checking the performance & technical specifications of their cookers alongwith a test report from one of the Test Centers of MNRE and prove to the inspection committee that the cookers provided by them are as per above specifications based on which CFA from MNRE will be released.
