

**Technical specifications of solar direct cooking system  
using Scheffler dish of 16 sq. m. aperture area**

<b>Concentrators</b>	
Reflecting mirrors i) Material  ii) Reflectivity  iii) Mirror fixing	i) Solar grade glass mirrors with protective layers of coating on back surface and sides to protect from exterior weathering effect. Special protections to be made keeping in view the climatic conditions of Leh . ii) 90% minimum with life of 15 to 20 years. Warranty/ guaranty to be provided for a period of five years. To be replaced immediately if found deteriorating during this period. 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. Special protections to be made keeping in view the high winds of region..
Concentration ratio (Aperture/ Utensil bottom area)	Over 60
Frame & supporting structure	Rigid enough to resist any deformation of the dish shape due to wind pressure or manual handling. Made up of aluminum/ mild steel with epoxy/ powder coating.
<b>Secondary Reflector &amp; Cooking place</b>	
<ul style="list-style-type: none"> <li>• Secondary reflector will use bright anodized aluminum sheets of minimum 0.4 mm thickness. Its base and cooking place stand will be fabricated using steel bars &amp; angle irons sheets respectively with proper thickness.</li> <li>• Cooking place will have adjustable shutters which can be operated from inside the kitchen.</li> <li>• The unit will withstand temperature of 400 C and wind pressure up to a speed of 150 km per hour.</li> </ul>	
<b>Tracking Arrangement</b>	
<ul style="list-style-type: none"> <li>• Any reliable Timer or PLC based automatic tracking mechanism with motorized reverse in evening &amp; park at morning position. Clock mechanism is not accepted.</li> <li>• Made of standard components; to be protected from rain, dust &amp; outside environment</li> <li>• Tracking accuracy : +/- 0.5 degree (to be ensured using inclinometer)</li> </ul>	

### **Civil work & cooking pots**

- All required civil work will be made to have the cooking done with Scheffler dishes. Each dish should be able to cook one dish for 100 people at a time within one hour under clear sun.
- Each Scheffler dish will be provided with a suitable vessel to cook food for 100 people at a time with bottom painted as selective black .

### **Other requirements**

- All exposed M.S. parts/components should have three coats of epoxy paint and 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.
- The steel structures provided to support various components of the system will be fabricated in such a way that they are able to take load (both wind load and static dead load) of the whole system.
- The personnel of the buyer/user institution will be trained by the supplier in the operation and maintenance of the system and its back-up system. Proper manuals will be prepared and provided to the user. Log book will also be supplied to the and user so that proper documentation is maintained.
- The other important features of system will be i) it will have easy access to the user and proper walkway and platforms will be supplied for easy operation and maintenance of the system wherever necessary ii) safety features will be incorporated in the system and iii) proper instrumentation will be provided so that user could see the status of system and take precautions /corrective steps if the system does not behave as expected.