

1. Technical Specification of Combination Cutter with Spreader (Battery- Operated)

S/No	Specification	
1	General	<ul style="list-style-type: none"> i. The unit shall be safer for heavy duty performance during rescue and salvage operation. ii. It shall be meeting latest standards of NFPA 1936 or EN 13204 or BIS standards and certified by TUV Germany / FM USA /EIL Delhi. iii. It should be made of anticorrosive material with the provision of carrying handles for operating the combi tool in all directions for safe and easy operation. iv. The combi tool shall be powered by an optimized high-performance battery, superior blade design and perfect pulling effect. v. The combi tool shall have blade opening and the force application perfectly matched to the relevant working range. vi. Application perfectly matched to the relevant working range.
2	Working Pressure	<ul style="list-style-type: none"> i. The battery-operated combi tool should be driven by a self-contained hydraulic power and control system operating should not be less than 650 bar working pressure. ii. The combi tool shall not need to be connected to an external hydraulic source. It shall have its own integral pump and drive system
3	Opening (spreading) Width	Minimum 450 mm.
4	Minimum spreading force	Minimum- 1400 KN.
5	Cutting force	<ul style="list-style-type: none"> i. Minimum 80 Ton (784 KN). ii. Should be able to cut A-36 Hot Rolled steel round bar of minimum 40 mm. diameter
6	Pulling force	Minimum 90 KN
7	Weight excluding Battery	Maximum 25 kg.
8	Operating Temperature	Should comply with the requirement of operating temperature as per the provisions of NFPA 1936 or EN 13204 or BIS Standards if available
9	Pump	The pump and drive system shall be energized by 5.0 Ah 25V Li-Ion battery or more.
10	Accessories to be Supplied	<ul style="list-style-type: none"> i. One set of chain with holders, ii. One set of spare blades, iii. Complete Tool kit for maintenance and repairs
11	Blades	<ul style="list-style-type: none"> i. Anodized for corrosion resistance. ii. Should be coated with corrosion resistant coating for extra corrosion resistance. iii. Design certified by EN/NFPA/ BIS Standards (if available) for the desired level of performance

12	Battery and Charger	<ul style="list-style-type: none"> i. Each tool shall be provided with Three (3) numbers rechargeable Li-Ion batteries (1 for tool and 2 as spares). ii. Battery must be having min 5 Ah, 25 V specifications. iii. Two (2) nos. battery chargers 230V/50Hz (1 working and 1 stand-by / spare), iv. One (1) adapter with cable for using power supply 230V/50Hz for the alternate operation of the eqpt.
13	Other requirements of battery	<ul style="list-style-type: none"> i. The battery once attached to the tool should make a compact unit and have reasonable protection against the external impact. ii. It may also have lock/unlock switch/latch as a safety precaution. iii. The battery slot should be ergonomically designed so as not to obstruct the rescuer even in confined spaces.
14	Certification/ Accreditation	BIS Certificate (If available)/ EN: 13204/ NFPA 1936
	Guarantee/ warranty/ Service support	<ul style="list-style-type: none"> i. Warranty: 03 years and extended upto 05 years. ii. The bidder should be able to conduct the repairs of the tools post warranty period for minimum ten years at a place as specified in the bid wherein it will be clearly laid out the possible procedure for the repairs and maintenance. iii. Bidder / OEM to provide an undertaking for the same.
15	Training	<ul style="list-style-type: none"> i. Two days base workshop level training to NDRF personnel in OEM/Firm premises/Location in India on full fledged running, testing, diagnostic, trouble shooting, maintenance, techniques for detection and calibration. ii. 01-day operator level training should be provided at user defined location
16	Carry Case	Injection moulded plastic or Aluminum case with customized Body
17	Manual and literatures	<p>The following should be provided with the equipment:</p> <ul style="list-style-type: none"> a. User Operation Manual/technical Manual, b. Detailed operators' instructions. c. Technical literature, d. Maintenance manual, Inspection standards be provided with the equipment

Technical Specification for Battery Operated Combination cutter with spreader

S.N.	Specifications		Trial directives
	Purpose	Combination tools are double-acting hydraulic tools primarily for cutting and spreading but may be used, with suitable attachments as necessary for pushing, pulling and pressing or squeezing. They are used for rescue work following vehicle, tanker or rail accidents, in factories or construction site accidents and in natural disasters particularly for collapsed shelter search and rescue. Although specialist and heavier individual function cutters and spreaders are available combi-tools offer a solution providing multiple functions in a single piece of equipment and its versatility makes it useful in post-disaster rescue work.	N/A
II.	Scope of Supply	Each combi-tool set will be battery operated and self-contained hydraulic power and control system	To be physically checked by BOO
III.	Specifications of Combi-tool	<ul style="list-style-type: none"> i. The Unit shall be safer for heavy-duty performance during rescue and salvage operations. ii. It shall be meeting latest standard of NFPA 1936/ NFPA 1960 or EN 13204 standard and certified by TUV Germany/FM USA/EIL Delhi. iii.If should be made of anticorrosive material with the provision of carrying handles for operating the combi- tool in all directions for safe and easy operation iv. The combi-tool shall be powered by an optimized high-performance battery, superior blade design and perfect pulling effect. v. The combi tool shall have a blade opening and the force application perfectly matched to the relevant working range. vi. Application perfectly matched to the relevant working range. 	To be physically checked by BOO and verified through relevant certificate.
		Working Pressure	
		Not less than 630 bars	To be physically checked by BOO through NABL/Govt

S.N.	Specifications		Trial directives
			government accredited lab report
	Opening (spreading) width	More than 300 mm	To be checked by BOO
	Minimum spreading force at 2.5 cm from tip of blades	35 KN	To be physically checked by BOO through NABL/Govt government accredited lab report
	Spread force at 630 to 720 bars	More than 100 KN	To be physically checked by BOO through NABL/Govt government accredited lab report
	Cutting force at 630 to 720 bars	More than 200 KN	To be physically checked by BOO through NABL/Govt government accredited lab report.
	Pulling force	More than 50 KN	To be physically checked by BOO through NABL/Govt government accredited lab report
	Weight	Maximum 19 kg without battery	To be physically checked by BOO
	Standard of equivalent	More than 25 mm diameter	To be physically checked by BOO
	Operating temperature	-20 to + 55 degree Celsius	To be physically checked by BOO through NABL/Govt government accredited lab report
	Specifications of pump:	The inbuilt pump and drive system shall be energized by 5.0Ah, 25V Li-Ion battery	To be physically checked by BOO through NABL/Govt government accredited lab report
		Accessories to be Supplied: i. One set of chain with hooks ii. One set of adapters to connect the chain set iii. One set of spare blades iv. Complete tool kit for maintenance and repairs	To be physically checked by BOO

S.N.	Specifications		Trial directives
		<p>Battery and charger:</p> <ul style="list-style-type: none"> i. Each tool shall be provided with two (2) numbers of rechargeable Li-Ion batteries (01 working and 01 standby). ii. Battery must be having min 5Ah, 25 V Specification. iii. One (1) No. battery charger, 230 V 50 Hz. iv. One (1) adapter with cable for using power supply 230 V 50 Hz for the alternative operation of the equipment. v. Working hours of battery on a full charge – 1 Hr (Approx.) <p>Charging time – Not more than 90 Minutes.</p>	<p>To be physically checked by BOO through relevant certificate.</p>
	<p>Certification/ Accreditation</p>	<p>Compliance certificate to NFPA</p>	<p>To be physically checked by BOO through the relevant certificate</p>
	<p>Guarantee/ Warranty/ Service support</p>	<ul style="list-style-type: none"> i. Warranty: 01 Year ii. The bidder should be able to conduct the repair of the tools post-warranty period for a minimum of ten years at site or at the manufacturer's place. iii. Bidder/ OEM to provide an undertaking for the same. <p>In case the Bidder is not an OEM, authorization from OEM authorizing the bidder to bid, to be attached along with the bid.</p>	<p>To be physically checked by BOO through the relevant certificate/undertaking.</p>