Test results Flamblocker CF7 operational tests Zenica BiH
Dated: April 15th 2026.

All tests were initiated and coordinated by FireTrade d.o.o. in collaboration with the Zenica Municipal Fire Department (Profesionalna vatrogasna jedinica Zenica) and supported by Flamblocker BV.

FieTrade d.o.o. is the official and exclusive Flamblocker CF7 distributer in Bosnia i Herzegovina on behalf of Flamblocker.

Overview of performed tests:

1. Forest fire, extinguishing with CF7 and water
2. Car tyre fire, extinguished with CF7 and water
3. MSW (mixed unsorted waste with high plastic content), extinguishing with CF7 and water
4. Standard car fire, extinguished with only water
5. Standard car fire, extinguished with CF7 and water

Location of operational tests:	Zenica municipal fire fighting department facility, Zenica Bosnia i Herzegovina.
Dater of tests:	April 15th 2026
Deployed fire fighting team:	Municipal fire fighting team Zenica
Fire truck type used:	Renault (D280, DTI 8, 16 T)
Used waterlines:	Standard C-Line + standards nozzle
Method of adding CF7:	via standard onboard mixing unit, CF7 taken directly from 20 litre jerrycan via standard mixer unit into standard C-line
Mixing rate CF7:	various, depending on type of test
Water pressure used:	various, depending on type of test
Attack method:	modified/enhanced, no dousing, direct short bursts
Weather conditions:	moderate sun, moderate moisture, moderate wind. General steady sunny day and no rain.
Experience level fire fighting crew:	High, well experienced team that was provided to the test to ensure maximum quality and continuity during the tests.
Crew leader:	Mr. Kenan senior fire fighter and instructor Zenica Fire Department
Deployed type of fire fighting liquid:	Standard Flamblocker CF7 -30/+60 multi-class wetting agent
deployed thermal camera:	Standard FLIR thermal camera, taken from operational fire fighting vehicle stationed at Zenica Fire Fighting Department

please note that deployed fire fighting truck has no volume level check that can show used volume of water. As such, used water volume is calculated based on indicated flow rate on truck x elapsed minutes.

Operational results per test.

Test 1 Forest fire, extinguishing with CF7 and water

Material type:	stack of used pallets (10) with added plastics and carboard material to enhance fire/burn ratio
Water pressure:	7 Bar (reading taken from truck system)
Flow rate water	465 liter/min
Type of attack:	Short direct bursts into/onto fire with short intervals and intermediate waiting to determine if more bursts are needed. Intention of minimum water usage. Non-standard attack model
Flamblocker CF7 used:	Yes
Mixing rate CF7	3%
Start time of fire:	11:39
Used accelerant:	benzine and engine oil, about 5 litres via adding onto stack of pallets
Temperature on start extinguishing fire:	around 500+ degrees and second reading on second location around 350C. stack of pallets fully ablaze with red hot parts throughout the pile
Starting time extinguishing:	11:49
Elapsed time to full termination of fire:	1:29 (one minute and twentynine seconds) including waiting time for observations
used volume of water (flow rate x time):	50 litres
Temperature upon full extinguishing fire:	27C
result:	full knockdown within 1:29 using 3% Flamblocker CF7 and water burst only method for attack. Used water volume = 50 litres. NO restart of fire. Seen as very good and unexpected result compared to regular operational experience of Zenica Fire Department. Observed high water reduction and required time reduction compared to standard operational settings and deployment. Actual full knockdown was completed faster than 1:29 seconds but team took additional time to check the actual situation and paused several times during deployment, causing a longer period of time between start of attack and full knockdown.

Test 2 Car tire fire, extinguished with CF7 and water

Material type:	stack of used car tires (5)
Water pressure:	9 Bar (reading taken from truck system)
Flow rate water	465 liter/min
Type of attack:	Short direct bursts into/onto fire with short intervals and intermediate waiting to determine if more bursts are needed. Intention of minimum water usage. Non-standard attack model
Flamblocker CF7 used:	Yes
Mixing rate CF7	3%
Start time of fire:	11.56
Used accelerant:	benzine and engine oil, about 3 litres via adding onto stack of tires
Temperature on start extinguishing fire:	around 500+ degrees
Starting time extinguishing:	12:00
Elapsed time to full termination of fire:	35 seconds actual time of water deployment, total used time is 3 minutes including waiting time for observations
used volume of water (flow rate x time):	50 to 60 litres
Temperature upon full extinguishing fire:	45C on outer walls tire and 160C on internal metal threat part of tire. No restart. After deployment, tires touched by bare hands by several witnesses of test
result:	full knockdown within 35 seconds using 3% Flamblocker CF7 and water burst only method for attack. Used water volume = 50 litres. NO restart of fire. Seen as very good and unexpected result compared to regular operational experience of Zenica Fire Department. Observed high water reduction and required time reduction compared to standard operational settings and deployment. Actual full knockdown was completed at 35 seconds but team took additional time to check the actual situation and paused several times during deployment, causing a longer period of time between start of attack and full knockdown.

Test 3 MSW (mixed unsorted waste with high plastic content), extinguishing with CF7 and water

-Please note: during this test the main waterline (C-line) broke and caused major delay during test and suppression of fire. Large volume of water dispersed via breach.

Material type:	standard waste container with mixed municipal waste including waste plastics, wood residue, paper/cardboard and various other materials.
Water pressure:	9 Bar (reading taken from truck system)
Flow rate water	465 liter/min
Type of attack:	Short direct bursts into/onto fire with short intervals and intermediate waiting to determine if more bursts are needed. Intention of minimum water usage. Non-standard attack model
Flamblocker CF7 used:	Yes
Mixing rate CF7	3%
Start time of fire:	12:09
Used accelerant:	benzine, about 3+ litres via adding onto/into container and over MSW
Temperature on start extinguishing fire:	around 500+ degrees inside waste composition and container temp around 350C+
Starting time extinguishing:	12:17
Elapsed time initial knock-down:	45 seconds. Waterline broke at end of initial knock-down causing halt in operations.
Restart of fire observed:	12:39
Starting time second attack:	12:48 and again at 12:51
Elapsed time second and 3th attack:	22 seconds and 29 seconds
Elapsed time to full termination of fire:	96 seconds including observation time by crew.
Used volume of water (flow rate x time):	100 litres
Temperature upon full extinguishing fire:	between 20 and 78C, depending on area of container and position of waste material No restart after third short attack. After deployment, container touched by bare hands by several witnesses of test
result:	full knockdown within 96 seconds using 3% Flamblocker CF7 and water burst only method for attack. Used water volume = 100 litres. Seen as very good and unexpected result compared to regular operational experience of Zenica Fire Department. Observed high water reduction and required time reduction compared to standard operational settings and deployment. Actual full knockdown was completed within 96 seconds but team took additional time to check the actual situation and paused several times during deployment, causing a longer period of time between start of attack and full knockdown. During test, waterline broke causing additional waiting

time for repairs, resulting in restart of fire due to ineffective knock-down caused by water breach.

Test 4 Standard car fire, extinguished with only water, NO Flamblocker CF7 used.

Car type:	standard 4-door Fiat, previously used for extraction tests. With full interieur and engine.
Water pressure:	8 Bar (reading taken from truck system)
Flow rate water	465 liter/min
Type of attack:	original standard method/dousing as done under regular standard conditions and operating standards.
Flamblocker CF7 used:	NO
Mixing rate CF7	None, only water
Start time of fire:	12:54
Used accelerant:	benzine, about 5 litres via adding to engine and interior
Temperature on start extinguishing fire:	around 500+ degrees, car completely engulfed in fire, interieur fully ablaze, engine fully ablaze.
Starting time extinguishing:	12:56
Elapsed time to full termination of fire:	1:52 (one minute and fiftytwo seconds)
used volume of water (flow rate x time):	900 litres
Temperature upon full extinguishing fire:	37C
result:	full knockdown within 1:52 using only water and stands dousing method for attack. Used water volume = 900 litres. Seen as standard result compared to regular operational experience of Zenica Fire Department

Test 5 Standard car fire, extinguished with water and Flamblocker CF7.

Car type:	standard 4-door Fiat, previously used for extraction tests. With full interieur and engine. Passenger door was removed during previous extraction demonstration.
Water pressure:	9 Bar (reading taken from truck system)
Flow rate water	465 liter/min
Type of attack:	Short direct bursts into/onto fire with short intervals and intermediate waiting to determine if more bursts are needed. Intention of minimum water usage. Non-standard attack model
Flamblocker CF7 used:	Yes
Mixing rate CF7	3%
Start time of fire:	13:03
Used accelerant:	benzine, about 5 litres via adding to engine and interior
Temperature on start extinguishing fire:	around 500+ degrees, car completely engulfed in fire, interieur fully ablaze, engine fully ablaze.
Starting time extinguishing:	
Elapsed time to full termination of fire:	1:11 (one minute and eleven seconds including waiting time for observations results/effects
used volume of water (flow rate x time):	400 litres
Temperature upon full extinguishing fire:	80C on interieur and 113/115C roof. No restart of fire
result:	full knockdown within 1:11 using 3% Flamblocker CF7 and water burst only method for attack. Used water volume = 400 litres. Higher end-temperatures due to minimum water deployment, NO restart of fire. Seen as very good and unexpected result compared to regular operational experience of Zenica Fire Department. Observed high water reduction and required time reduction compared to standard operational settings and deployment. Actual full knockdown was completed faster than 1:11 seconds but team took additional time to check the actual situation and paused several times during deployment, causing a longer period of time between start of attack and full knockdown.

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